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ABSTRACT

The glossary is one of twenty in various subject areas of vocational education designed to assist the student in vocabulary mastery for particular vocational education courses. They are part of the Vocational Reading Power Project, Title III, E.S.E.A. This glossary is for a course in auto mechanics. It is divided into two parts: one provides the student with two definitions for each term listed; the second part lists the same words with space for the student's definition. It is intended that upon completion of the course, mutually agreeable definitions for each term will be arrived at by the instructor and the students. These definitions will be made available to future students taking the course. (AG)

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AUTO MECHANICS
Glossary of Key Words

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Vocational Reading Power
E.S.E.A. Title III

CE000 874

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To The Student

This Glossary of Key Words was prepared to help you in your course. The words that follow were judged by your instructor to be the most important for you to understand.

Directions

The Glossary is divided into two parts. The first part lists the key words at the left side of the page. Across from the key words are two definitions for that word. The "A" definition is more difficult and specific. The "B" definition is easier and more general. During a learning activity, you are to use both definitions to help you understand. After the learning activity, you are to write your definition of the word as you understand it.

The second part just lists words. There is space for you to write your understanding of those words. Also, at the end of the booklet are blank lines. Here, you and your instructor will list and define the words which were left out.

At the end of the course, your definitions and the instructor's definitions will be joined together. These will be printed and given to the students who come after you have graduated. It is hoped that, with your help, the future students of vocational education will be greatly benefited.

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a) PRIMARY
b) SECONDARY

AAA	a) American Automobile Association. b) Same
ABDC	a) After Bottom Dead Center. b) Same
AC	a) Alternating current. b) An electrical force that first flows one way in a circuit and then the other.
ACCELERATOR	a) The floor pedal used to control, through linkage, the throttle valve in the carburetor. b) The floor pedal which controls engine speed.
ACCELERATOR PUMP	a) A small pump, located in the carburetor, that sprays additional gasoline into the air stream during acceleration. b) A pump in the carburetor used to supply more fuel during engine speed-up.
ACCUMULATOR PISTON	a) Automatic Transmission: A unit designed to assist the servo to apply the brake band quickly, yet smoothly. b) Prevents harsh shifting of the automatic transmission.
ADDITIVE	a) Some solution, powder, etc., that is added to gasoline, oil, grease, etc., in order to improve the characteristics of the original product. b) A solution used to improve the original product.
ADVANCE	a) Ignition Timing: To set the ignition timing so that a spark occurs earlier or more degrees before Top Dead Center (TDC). b) Same.
A.I.R.	a) Air Injection Reactor system of reducing exhaust emissions. b) A device used to reduce pollution.

AAA

ABDC

AC

ACCELERATOR

ACCELERATOR PUMP

ACCUMULATOR PISTON

ADDITIVE

ADVANCE

A.I.R.

a) PRIMARY
b) SECONDARY

AIR CLEANER	a) A device used to remove dust, abrasive, etc., from air being drawn into an engine, compressor, power brake, etc. b) A device used to clean air being drawn into an engine.
AIR FUEL RATIO	a) The ratio (by weight or by volume) between the air and gasoline that makes up the engine fuel mixture. b) Measured air and fuel entering the engine.
AIR GAP (Regulator)	a) The distance between the contact armature and the iron core that when magnetized, draws the armature down. b) The distance between two open contact points.
AIR GAP (Spark Plugs)	a) The distance between the center and side electrodes. b) Same.
AIR HORN (Carburetor)	a) Top portion of the air passageway through the carburetor. b) The top portion of the carburetor.
AIR HORN (Warning)	a) A warning horn operated by compressed air. b) Same.
AIR POLLUTION	a) Contamination of the earth atmosphere by various natural and man-made pollutants such as smoke, gases, dust, etc. b) Dirty air.
ALLOY	a) A mixture of two or more materials. b) Same.
ALTERNATOR	a) A device similar to the generator but which produces AC current. The AC must be changed to D. C. before reaching the car's electrical system. b) A device which produces AC current.

AIR CLEANER

AIR FUEL RATIO

AIR GAP (Regulator)

AIR GAP (Spark Plugs)

AIR HORN (Carburetor)

AIR HORN (Warning)

AIR POLLUTION

ALLOY

ALTERNATOR

a) PRIMARY
b) SECONDARY

ALTERNATING CURRENT (AC)	a) An electric current that first flows one way in the circuit and then the other. This is the type used in homes. b) An electrical force that first flows one way in a circuit and then the other.
AMMETER	a) An instrument used to measure the rate of current flow (in amperes). b) Same.
AMPERE	a) A unit of measurement used in expressing the rate of current flow in a circuit. b) A measurement of the volume of current flow.
AMPERE HOUR CAPACITY	a) A measurement of storage battery ability to deliver a specified current over a specified length of time. b) Same.
ANNEAL	a) To remove hardness from metal by heating, usually to a red color, then allowing it to cool slowly. Unlike steel, copper is annealed by heating, and then plunging into cold water. b) To remove hardness from a metal.
ANTI-BACKFIRE VALVE	a) Valve used in air injection reaction (exhaust emission control) system to prevent backfiring during the period immediately following sudden deceleration. b) Valve used to prevent explosion in the muffler.
ANTIFREEZE	a) A chemical added to the cooling system to prevent the coolant from freezing in cold weather. b) A chemical that prevents water from freezing.
ANTIFRICTION BEARING	a) A bearing containing rollers or balls plus an inner and outer race. The bearing is designed to roll thus minimizing friction. b) A device designed to roll reducing wear.
ANTIPERCOLATOR	a) A device for venting vapors from the main discharge tube, or the well, of a carburetor. b) A vent which releases gas vapors from the carburetor.

ALTERNATING CURRENT (AC)

AMMETER

AMPERE

AMPERE HOUR CAPACITY

ANNEAL

ANTI-BACKFIRE VALVE

ANTIFREEZE

ANTIFRICTION BEARING

ANTIPERCOLATOR

a) PRIMARY
b) SECONDARY

ANVIL	a) 1. Heavy iron block, usually with a smooth face on which metal is hammered into a particular shape. 2. Heavy iron block, on which metal is hammered. b) 1. The fixed jaw on certain measuring instruments, i. e., micrometer. 2. Same.
API	a) American Petroleum Institute. b) Same.
ARC or ELECTRICAL WELDING	a) Welding by using an electric current to melt both the metal to be welded and the welding rod or electrode that is being added. b) The uniting of two metals by melting them with electrical current.
ARCING	a) Electricity leaping the gap between two electrodes. b) Electricity traveling through the air between two points.
ARMATURE	a) 1. (Relay, regulator, horn, etc.) the movable part of the unit. 2. Same. b) 1. (Starter or generator) the piece that revolves between the pole shoes, made up of wire windings on an iron core. 2. Same.
ASBESTOS	a) A heat resistant and nonburning fiber mineral widely used for brake shoes, clutch linings, etc. b) A mineral fiber that will not burn.
ATDC	a) After Top Dead Center. b) Same.
ATMOSPHERIC PRESSURE	a) Pressure exerted by the atmosphere on all things exposed to it. Around fifteen pounds per square inch at sea level (14.7). b) Pressure of the air on the earth, 14.7 pounds per square inch at sea level.

ANVIL (1)

(2)

API

ARC or ELECTRICAL WELDING

ARCING

ARMATURE (1)

(2)

ASBESTOS

ATDC

ATMOSPHERIC PRESSURE

a) PRIMARY
b) SECONDARY

ATOM	a) A tiny particle of matter made up of electrons, protons, and neutrons. Atoms or combinations of atoms make up molecules. The electrons orbit around the center or nucleus made up of the protons and neutrons. b) A tiny particle of matter.
AUTOMATIC CHOKE	a) A carburetor choke device that automatically positions itself in accordance with carburetor needs. b) Carburetor part that helps the engine run better when cold.
AXLE END GEARS	a) The two gears, one per axle, that are splined to the inner ends of the drive axles. They mesh with and are driven by the "spider" gears. b) The gears that drive the rear axles.
AXLE (Full-Floating)	a) An axle used to drive the rear wheels. It does not hold them on nor support them. b) Same.
AXLE (Semi or one-quarter floating)	a) An axle used to drive the wheels, hold them on, and support them. b) Same.
BALL JOINT	a) A flexible joint using a ball and socket type of construction. Used in steering linkage setups, steering knuckle pivot supports, etc. b) Example: Man's arm connected to his shoulder.
BALL JOINT (Steering Knuckle)	a) A steering knuckle that pivots on ball joints instead of on a kingpin. b) A wheel spindle which is supported by a ball and socket top and bottom.
BALL JOINT (Rocker Arms)	a) Rocker arms that instead of being mounted on a shaft, are mounted upon a ball-shaped device on the end of a stud. b) Same.

ATOM

AUTOMATIC CHOKE

AXLE END GEARS

AXLE (Full-Floating)

AXLE (Semi or one-quarter floating)

BALL JOINT

BALL JOINT (Steering Knuckle)

BALL JOINT (Rocker Arms)

a) PRIMARY
b) SECONDARY

BALLAST RESISTOR	a) A resistor constructed of a special type wire, the properties of which tend to increase or decrease the voltage in direct proportion to the heat of the wire. b) A device to maihtain a constant current.
BASE CIRCLE (Cam shaft)	a) As applied to the camshaft - lowest spot on the cam. The area of the cam directly opposite the lobe. b) The lowest area on the cam lobe.
BATTERY CHARGING	a) The process of renewing the battery by passing an electric current through the battery in a reverse direction. b) Renewing the electrical energy of the battery.
BEARING	a) The contact area between a load carrying member and its support. b) The part in which a journal or pivot turns or moves.
BEARING CLEARANCE	a) The amount of space left between a shaft and the bearing surface. This space is for lubricating oil to enter. b) Air gap between bearing and shaft.
BLEEDING THE BRAKES	a) This refers to the removal of air from the hydraulic system. Bleeder screws are loosened at each wheel cylinder (one at a time), and brake fluid is forced from the master cylinder through the lines until all air is expelled. b) Removal of all air from the brake system.
BLOCK (Cylinder)	a) That part of the engine containing the cylinders. b) The main body of the engine.
BLOWER	a) A machine for forcing air, i. e., fan. b) Same.
	a) Super charger. b) Air compressor.

BALLAST RESISTOR

BASE CIRCLE
(Cam shaft)

BATTERY CHARGING

BEARING

BEARING CLEARANCE

BLEEDING THE BRAKES

BLOCK
(Cylinder)

BLOWER

a) PRIMARY
b) SECONDARY

BLUEPRINTING (Engine)	a)	Dismantling engine and reassembling it to exact manufacturer's specifications.
	b)	Same.
BOLT	a)	A metal pin with a head on one end and threads on the other. A nut screws onto the threaded part.
	b)	A device used to fasten two parts together.
BORE DIAMETER	a)	The diameter of a cylinder.
	b)	Measured distance across cylinder bore.
BORING	a)	Renewing the cylinders by cutting them out to a specified size. A boring bar is used to make the cut.
	b)	Increasing the size of the cylinder.
BOTTLED GAS	a)	LPG (liquefied petroleum gas), gas compressed into strong metal tanks. The gas, when confined in the tank, under pressure, is in liquid form.
	b)	Same.
BOURDON TUBE	a)	A circular, hollow piece of metal that is used in some instruments. Pressure on the hollow section causes it to attempt to straighten. The free end then moves a needle on the gauge face.
	b)	Metal tube that controls a needle on a gauge.
BRAKE ANTI-ROLL DEVICE	a)	A unit installed in the brake system to hold brake line pressure when the car is stopped on an upgrade. When the car is stopped on the upgrade and the brake pedal released, the anti-roll device will keep the brakes applied until either the clutch is released or as on some models, the accelerator is depressed.
	b)	Brake part designed to hold brakes on a vehicle.
BRAKE BACKING PLATE	a)	A rigid steel plate upon which the brake shoes are attached. The braking force applied to the shoes is absorbed by the backing plate.
	b)	A mounting face for attaching brake shoes.

BLUEPRINTING (Engine)

BOLT

BORE DIAMETER

BORING

BOTTLED GAS

BOURDON TUBE

BRAKE ANTI-ROLL DEVICE

BRAKE BACKING PLATE

a) PRIMARY
b) SECONDARY

BRAKE DRUM LATHE	a) A machine to refinish the inside of a brake drum. b) A machine that repairs worn brake drums.
BRAKE FEEL	a) A noticeable feel to the driver, between the amount of brake pedal pressure and the actual braking force being exerted. A special device is incorporated in power brake installations to give the driver this feel. b) Same.
BRAKE HORSEPOWER (bhp)	a) A measurement of the actual useable horsepower delivered at the crankshaft. It is commonly computed by using an engine on a chassis dynamometer. b) Useable horsepower measured at the crank shaft.
BREAK-IN	a) Period of operation between the installation of new or rebuilt parts and the time in which the parts are worn to the correct fit. Driving at a reduced and varying speed for a specified mileage to permit parts to wear to the correct fit. b) Period of time it takes to wear new part to proper fit.
BRAKE PARKING	a) A brake used to hold the car in position while parked. One type applies the rear brake shoes by mechanical means and the other type applies a brake band to a brake drum installed in the drive train. b) A holding brake for parked vehicles.
BRAKES - POWER	a) A conventional hydraulic brake system that utilizes engine vacuum to operate a vacuum power piston. The power piston applies pressure to the brake pedal, or in some cases, directly to the master cylinder piston. This reduces the amount of pedal pressure that the driver must exert to stop the car. b) A brake part that reduces pushing effort on the brake pedal.
BRAKE SHOE GRINDER	a) A grinder used to grind brake shoe lining so that it will be square to and concentric with the brake drum. b) A tool used to grind brake shoes to proper size.

BRAKE DRUM LATHE

BRAKE FEEL

BRAKE HORSEPOWER (bhp)

BREAK-IN

BRAKE PARKING

BRAKES - POWER

BRAKE SHOE GRINDER

a) PRIMARY
b) SECONDARY

BRAKE SHOES	a) That part of the brake system, located at the wheels, upon which the brake lining is attached. When the wheel cylinders are actuated by hydraulic pressure they force the brake shoes apart and bring the lining into contact with the drum. b) Brake linings attached to metal holders.
BREATHER PIPE	a) A pipe opening into the inside of the engine. It is used to help ventilation. The pipe usually extends downward to a point just below the engine so that the passing air stream will form a partial vacuum thus assisting in venting the engine. No longer used. b) Pipe connected to the engine to release internal pressure.
BTDC	a) Before Top Dead Center. b) Same.
BUSHING	a) A non-rotating bearing for a shaft, spring shackle or piston pin to rotate or move. It is usually of one piece construction and may be removed from the part. b) A circular wear surface that can be replaced.
BUTTERFLY VALVE	a) A valve in the carburetor that is so named due to its resemblance to the insect of the same name. b) A round plate located in the carburetor that restricts air-fuel flow.
BYPASS FILTER (Oil)	a) An oil filter that constantly filters a portion of the oil flowing through the engine. b) Does not filter all oil before it reaches the bearings.
BYPASS VALVE	a) A valve that can open and allow a fluid to pass through in other than its normal channel. b) A relief valve allowing another route for fluid to travel.
CALIBRATE	a) As applied to test instruments - adjusting the dial needle to the correct zero or load setting. b) Same.

BRAKE SHOES

BREATHER PIPE

BTDC

BUSHING

BUTTERFLY VALVE

BYPASS FILTER (Oil)

BYPASS VALVE

CALIBRATE

a) PRIMARY
b) SECONDARY

CALIPER	1. a) An adjustable measuring tool that is placed around or within an object and adjusted until it just contacts. It is then withdrawn and the distance measured between the contacting points. b) An adjustable measuring tool that is placed in or around an object, is then removed and measured. 2. a) Housing for piston(s) and pads on a disc brake unit. b) Same.
CAM	a) A device for converting rotary motion into straight line motion. b) Same as above and usually on camshaft used to open valves.
CAM ANGLE OR DWELL (Ignition)	a) The number of degrees the breaker cam rotates from the time the breaker points close until they open again. The number of degrees the points are closed. b) Same.
CAMBER	a) Alignment angle on front or independent suspension rear ends. The top of the tire tipped in is negative camber, the top of the the tire tipped out is positive camber. b) Same.
CAM GROUND (Piston)	a) A piston that is ground slightly egg-shaped. When it is heated, it becomes round. b) Piston manufactured not round.
CAMSHAFT GEAR	a) A gear that is used to drive the camshaft. b) Same.
CANDLE POWER	a) A measurement of the light producing ability of a light bulb. b) Same.

CALIPER (1) ____________________

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(2) ____________________

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CAM ____________________

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CAM ANGLE OR DWELL
(Ignition) ____________________

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CAMBER ____________________

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CAM GROUND (Piston) ____________________

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CAMSHAFT GEAR ____________________

____

CANDLE POWER ____________________

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a) PRIMARY
b) SECONDARY

C.A.P.	a) Cleaner Air Package System of reducing the amount of unburned hydrocarbons in the automobile exhaust. b) Pollution controlling device.
CARBON	a) Used to describe the hard, or soft, black deposits found in the combustion chamber, on the plugs, under the rings, on and under the valve heads, etc. b) Black deposits found in engine cylinders.
CARBONIZE	a) Building up of carbon on objects such as spark plugs, pistons, heads, etc. b) Increasing of black deposits in the cylinder.
CARBON MONOXIDE	a) A deadly, colorless, odorless, and tasteless gas found in the engine exhaust. Formed by incomplete burning of hydrocarbons. b) A fatal exhaust gas.
CARBON TETRACHLORIDE	a) A liquid often used in fire extinguishers. The fumes are toxic - avoid inhaling. b) A dangerous fluid sometimes used for cleaning.
CARBURETOR	a) A device used to mix gasoline and air in correct amounts. b) Same.
CARBURETOR ICING	a) The formation of ice on the throttle plate or valve. As the fuel nozzles feed fuel into the air horn it turns to a vapor. This robs heat from the air and when weather conditions are just right (fairly cold and quite humid) ice may form. b) Forming of ice inside the carburetor.
CARDAN JOINT	a) A type of universal joint. b) Same.
CARRIER BEARINGS	a) The bearings upon which the differential case is mounted. b) Same.

C.A.P.

CARBON

CARBONIZE

CARBON MONOXIDE

CARBON TETRACHLORIDE

CARBURETOR

CARBURETOR ICING

CARDAN JOINT

CARRIER BEARINGS

a) PRIMARY
b) SECONDARY

CASE-HARDENING	a) A piece of steel that has had the outer surface hardened while the inner portion remains relatively soft. b) Example: A ball bearing.
CASTER	a) Tipping the top of the kingpin either forward or toward the rear of the car. When tipped forward it is termed negative caster. When tipped toward the rear it is termed positive caster. b) Moving the top part of the kingpin forward or backward while the bottom stays in the same position.
CASTING	a) Pouring metal into a mold to form an object. b) Same.
CASTLE OR CASTELLATED NUT	a) A nut having a series of slots cut into one end into which a cotter pin may be passed to secure the nut. b) Same.
CCS	Controlled Combustion System for reducing unburned hydrocarbon emission from the engine exhaust. b) A device used to control auto pollution on General Motors cars.
CELL (Battery)	a) The individual (separate) compartments in the battery which contain positive and negative plates suspended in electrolyte. A six-volt battery has three cells, a twelve-volt battery six cells. b) Same.
CELL CONNECTOR	a) The lead strap or connection between battery cell groups. b) Same.

CASE-HARDENING

CASTER

CASTING

CASTLE OR
CASTELLATED NUT

CCS

CELL (Battery)

CELL CONNECTOR

a) PRIMARY
b) SECONDARY

CENTER OF GRAVITY	a) That point in an object, if through which an imaginary pivot line were drawn, would leave the object in balance. In the car, the closer the weight to the ground, the lower the center of gravity. b) Example[illegible] Balancing a pencil on your finger.
CENTER STEERING LINKAGE	a) A steering system utilizing two tie rods connected to the steering arms and to a central idler arm. The idler arm is operated by a drag link that connects the idler arm to the pitman arm. b) Same.
CENTIGRADE	a) Thermometer on which the boiling point of water is 100 degrees and the freezing point is 0 degrees. b) Same.
CENTRIFUGAL ADVANCE	a) (Distributor) A unit designed to advance and retard the ignition timing through the action of centrifugal force. b) Same.
CENTRIFUGAL CLUTCH	a) A clutch that utilizes centrifugal force to expand a friction device on the driving shaft until it is locked to a drum on the driven shaft. b) Same.
CENTRIFUGAL FORCE	a) That force which tends to keep moving objects traveling in a straight line. When a moving car is forced to make a turn, centrifugal force attempts to keep it moving in a straight line. If the car is turning at too high a speed, centrifugal force will be greater than the frictional force between the tires and the road and the car will slide off the road. b) Same.
CERAMIC FILTER	a) A filtering device utilizing a porous ceramic as the filtering agent. b) A clay product that filters out impurities.

CENTER OF GRAVITY

CENTER STEERING
LINKAGE

CENTIGRADE

CENTRIFUGAL ADVANCE

CENTRIFUGAL CLUTCH

CENTRIFUGAL FORCE

CERAMIC FILTER

CHAMFER

CHARGE (Battery)

CHASE

CHASSIS

CHECK VALVE

CHOKE

CID

CIRCUIT (Electrical)

CIRCUIT (Carburetor)

a) PRIMARY
b) SECONDARY

CHAMFER	a) To bevel (or a bevel on) the edge of an object. b) Same.
CHARGE (Battery	a) Passing an electric current through a battery to restore it to the active (charged) state. b) Same.
CHASE	a) To repair damaged threads. b) Same.
CHASSIS	a) Generally, chassis refers to the frame, engine, front and rear axles, springs, steering system and gas tank. In short, everything but the body and fenders. b) Same.
CHECK VALVE	a) A valve that opens to permit the passage of fluid or air in one direction and closes to prevent passage in the opposite direction. b) A one-way valve.
CHOKE	a) A butterfly valve located in the carburetor that is used to enrich the fuel mixture for starting the engine when cold. b) Carburetor part that helps the engine run better when cold.
CID	a) Cubic Inch Displacement. b) Same.
CIRCUIT (Electrical)	a) A source of electricity, a resistance unit and the wires that connect them to form a complete path from the source through the unit and back to the source. b) An electronic path between two or more points.
CIRCUIT (Carburetor)	a) One of a number of paths located in the carburetor used for proper mixing of gas and air. b) One of six basic systems of a carburetor. Example: Float circuit.

a) PRIMARY
b) SECONDARY

CIRCUIT BREAKER (Lighting System)	a) A protective device that will make and break the flow of current when current draw becomes excessive. Unlike the fuse, it does not blow out, but vibrates on and off thus giving the driver some light to stop by. b) A device for breaking a circuit by means of opening and closing contact points.
CIRCULATION	a) The repeated movement of oil, water or air through a predetermined path. b) Same.
CLEARANCE	a) A given amount of space between two parts - between piston and cylinder, bearing and journal, etc. b) Same.
CLOCKWISE	a) Rotation to the right as that of clock hands. b) Same.
CLUSTER OR COUNTER GEAR	a) The cluster of gears that are all cut on one long gear blank. The cluster gears ride in the bottom of the transmission. The cluster provides a connection between the transmission inout shaft and the output shaft. b) A group of gears cut from one piece of steel.
CLUTCH DIAPHRAGM SPRING	a) A round dish-shaped piece of flat spring steel. It is used to force the pressure plate against the clutch disc in some clutches. b) A spring steel plate which applies and releases the clutch disc.
CLUTCH DISC	a) That part of a clutch assembly that is splined to the transmission clutch or input shaft. It is faced with friction material. When the clutch is engaged, the disc is squeezed between the flywheel and the clutch pressure plate. b) A plate which connects and disconnects the engine from the drive train.
CLUTCH EXPLOSION	a) Clutches have literally blown apart (exploded) when subjected to high rpm. A scatter shield is used on competition cars to protect the driver and spectators from flying parts in the event the clutch explodes. b) Same.

CIRCUIT BREAKER
(Lighting System)

CIRCULATION

CLEARANCE

CLOCKWISE

CLUSTER OR
COUNTER GEAR

CLUTCH DIAPHRAGM SPRING

CLUTCH DISC

CLUTCH EXPLOSION

a) PRIMARY
b) SECONDARY

CLUTCH HOUSING OR BELL HOUSING	a) A cast iron or aluminum housing that surrounds the flywheel and clutch mechanism. b) Same.
CLUTCH PEDAL FREE TRAVEL	a) The specified distance that the clutch pedal may be depressed before the throwout bearing actually contacts the clutch release fingers. b) The distance the clutch pedal is pushed in before it starts to release the clutch.
CLUTCH PILOT BEARING	a) A small bronze bushing, or in some cases a ball bearing, placed in the end of the crankshaft or in the center of the flywheel depending on the car, that is used to support the outboard end of the transmission input shaft. b) A small bearing that aligns the transmission with the engine crankshaft.
CLUTCH PRESSURE PLATE	a) That part of a clutch assembly that through spring pressure, squeezes the clutch disc against the flywheel thereby transmitting a driving force through the assembly. To disengage the clutch, the pressure plate is drawn away from the flywheel via linkage. b) A spring loaded plate that connects and disconnects the clutch disc.
CLUTCH SEMI-CENTRIFUGAL RELEASE FINGERS	a) Clutch release fingers that have a weight attached to them so that at high rpm the release fingers place additional pressure on the clutch pressure plate. b) Same.
CLUTCH THROWOUT FORK	a) The device or fork that straddles the throw-out bearing and that is used to force the throw-out bearing against the clutch release fingers. b) A linkage which releases clutch pressure.
COEFFICIENT OF FRICTION	a) A measurement of the amount of friction developed between two objects in physical contact when one of the objects is drawn across the other. If a book were placed on a table and a measuring scale used to pull the book the amount of weight or pull registered on the scale would be the coefficient of friction. b) Same.

CLUTCH HOUSING OR
BELL HOUSING

CLUTCH PEDAL
FREE TRAVEL

CLUTCH PILOT BEARING

CLUTCH PRESSURE PLATE

CLUTCH SEMI-CENTRIFUGAL
RELEASE FINGERS

CLUTCH THROWOUT FORK

COEFFICIENT OF FRICTION

a) PRIMARY
b) SECONDARY

COIL (Ignition)	a) A unit used to step up battery voltage to the point necessary to fire the spark plugs. b) Transformer that increases battery voltage to 20,000 volts and above.
COIL SPRING	a) A section of spring steel rod wound in a spiral pattern or shape. Widely used in both front and rear suspension systems. b) Same.
COMBUSTION	a) The process involved during the burning of the gasses usually in a combustion chamber. b) Controlled burning of the gas, air mixture in the cylinder.
COMBUSTION CHAMBER	a) The area above the piston with the piston on TDC. The head of the piston, the cylinder and the head form the chamber. b) The area where the fuel-air mixture is
COMBUSTION CHAMBER VOLUME	a) Volume of combustion chamber (space above piston with piston on TDC) measured in cc (cubic centimeters). b) Same.
COMMUTATOR	a) The series of copper bars that are connected to the armature windings. These bars are insulated from each other and the shaft. Brushes rub against the bars of the commutator. b) Copper bars attached to an armature that conducts electricity.
COMPENSATING PORT	a) A small hole in a brake master cylinder to permit fluid to return to the reservoir. b) Same.
COMPENSATOR VALVE	a) (Automatic Transmission) A valve designed to increase the pressure on the brake band during heavy acceleration. b) Same.
COMPOUND	a) Two or more elements chemically combined. b) Same.

COIL (Ignition)

COIL SPRING

COMBUSTION

COMBUSTION CHAMBER

COMBUSTION CHAMBER VOLUME

COMMUTATOR

COMPENSATING PORT

COMPENSATOR VALVE

COMPOUND

a) PRIMARY
b) SECONDARY

COMPRESSED	a) Anything that is put under pressure or squeezed usually reducing its volume. b) Same.
COMPRESSION	1. a) Applying pressure to a spring, or other springy substance. This causes it to reduce in length in the direction of the compression force. b) Same. 2. a) Applying pressure to a gas thus reducing its volume. b) Same. 3. a) Stroke two of the four strokes. Compresses the air-fuel mixture in the cylinder. b) Same.
COMPRESSION CHECK	a) Testing the compression in all the cylinders at cranking speed. All plugs are removed, the compression gauge placed in one plug hole, the throttle cracked wide open and the engine cranked until the gauge no longer climbs. The compression check is a fine way in which to determine the condition of the valves, rings and cylinders. b) Testing each cylinder for its ability to contain compressed gasses.
COMPRESSION GAUGE	a) A gauge used to test the compression in the cylinders. b) Same.
COMPRESSION RATIO	a) Relationship between the cylinder volume (clearance volume) when the piston is on TDC and the cylinder volume when the piston is on BDC. b) Example: An engine that compresses its fuel-air mixture to one tenth its original volume before firing. It has a 10 to 1 compression ratio.
CONCENTRIC	a) Two or more circles so placed as to share a common center. b) Two or more circles having a common center.

COMPRESSED

COMPRESSION (1)

(2)

(3)

COMPRESSION CHECK

COMPRESSION GAUGE

COMPRESSION RATIO

CONCENTRIC

a) PRIMARY
b) SECONDARY

CONDENSE	a) Turning a vapor back into a liquid. b) To make smaller.
CONDENSATION	a) Moisture, from the air, deposited on a cool surface. b) Example: The inside of a car's windshield becoming foggy.
CONDUCTION	a) The transfer of heat from one object to another by having the objects in physical contact. b) Heat traveling between two objects in contact with each other.
CONDUCTOR	a) A material forming a path for the flow of current. b) A carrier of electrical current.
CONNECTING ROD	a) The connecting link between the piston and the crankshaft. b) A metal rod that connects the piston to the crankshaft.
CONSTANT MESH GEARS	a) Gears that are always in mesh with each other - driving or not. b) Gears whose teeth are always in contact with each other.
CONSTANT VELOCITY UNIVERSAL JOINT	a) A universal joint so designed as to effect a smooth transfer of torque from the driven shaft to the driving shaft without any fluctuations in the speed of the driven shaft. b) Device that transfers engine power to rear end smoothly.
CONTACT POINTS	a) Breaker points usually one fixed and one moveable point that when pressed together, complete a circuit. Their contact surfaces are usually made of tungsten platinum or silver. b) Metal tips which open and close. When closed electrical current passes through them.
CONTRACTION (Thermal)	a) The reduction in size of an object when cooled. b) Same.

CONDENSE

CONDENSATION

CONDUCTION

CONNECTING ROD

CONSTANT MESH GEARS

CONSTANT VELOCITY UNIVERSAL JOINT

CONTACT POINTS

CONTRACTION (Thermal)

a) PRIMARY
b) SECONDARY

CONVECTION	a) The transfer of heat from one object to another when the hotter object heats the surrounding air and the air in turn heats the other object.	b) The transfer of heat by the circulation or movement of a liquid or a gas.
COOLANT	a) Liquid in the cooling system.	b) Same.
CORRODE	a) Removal of surface material from an object by chemical action.	b) Eating away of metal.
COUNTERBALANCE	a) A weight attached to some moving part so that the part will be in balance.	b) Same.
COUNTERBORE	a) Enlarging a hole to a certain depth.	b) Same.
COUNTERCLOCKWISE	a) Rotation to the left as opposed to that of clock hands.	b) Same.
COUNTERSINK	a) To make a counterbore so that the head of a screw may set flush, or below the surface.	b) Same.
COUPLE	a) Join together.	b) Same.
COUPLING	a) A connecting device used between two objects so motion of one will be given to the other.	b) Example: A universal joint on a driveshaft.
COUPLING POINT (Automatic Transmission)	a) This refers to the point at which both the pump and the turbine in a torque converter are traveling at the same speed. The drive is almost direct at this point.	b) Same.

CONVECTION

COOLANT

CORRODE

COUNTERBALANCE

COUNTERBORE

COUNTERCLOCKWISE

COUNTERSINK

COUPLE

COUPLING

COUPLING JOINT
(Automatic Transmission)

a) PRIMARY
b) SECONDARY

COWL	a) The part of the car body between the engine firewall and the front of the dash panel. b) Same.
CRANKCASE DILUTION	a) An accumulation of unburned gasoline in the crankcase. An excessively rich fuel mixture or poor combustion will allow a certain amount of gasoline to pass down between the pistons and cylinder walls. b) Water or gasoline mixed into the oil.
CRANKSHAFT GEAR	a) A gear mounted on the front of the crankshaft. It is used to drive the camshaft gear. b) Same.
CROSS SHAFT (Steering)	a) The shaft in the steering gearbox that engages the steering shaft worm. The cross shaft is splined to the pitman arm. b) Steering linkage located inside the steering gear box.
CRUDE OIL	a) Petroleum in its raw or unrefined state. It forms the basis of gasoline, engine oil, diesel oil, kerosene, etc. b) Oil as it comes from an oil well.
CU. IN. (C.I.)	a) Cubic inch. b) Same.
CUBIC	a) Having three dimensions, usually referring to volume, i. e., cubic inch displacement. b) A measurement of an objects length, width, and height.
CURRENT	a) The rate of flow of electrons in amperes. b) The flow of electricity.
CUTOUT (Regulator)	a) A device to connect or disconnect the generator from the battery circuit. When the generator is charging,cutout makes circuit. When generator stops, cutout breaks circuit. Also referred to as cutout relay, and circuit breaker. b) A device containing metal tips that open and close. When the tips are closed the generator charges the battery.

COWL

CRANKCASE DILUTION

CRANKSHAFT GEAR

CROSS SHAFT (Steering)

CRUDE OIL

CU. IN. (C.I.)

CUBIC

CURRENT

CUTOUT (Regulator)

a) PRIMARY
b) SECONDARY

CYLINDER	a) A round hole or opening in a block or other metal piece usually for a piston to travel in, i. e., engine piston, brake piston in a wheel cylinder. b) Looks like a tin can with both ends cut out.
CYLINDER HEAD	a) The metal section that is bolted on top of the block. It is used to cover the tops of the cylinders. In many cases the cylinder head contains the valves. It also forms part of the combustion chamber. b) The metal top that covers the cylinders.
CYLINDER HONE	a) A tool that uses an abrasive to smooth out and bring to exact measurements such things as engine cylinders, wheel cylinders, bushings, etc. b) A tool used to smooth the inside surface of a cylinder.
CYLINDER SLEEVE	a) A replaceable cylinder. It is made of a pipe-like section that is either pressed or pushed into the block. b) A metal object that looks like a tin can with both ends cut out.
DEGLAZER	a) An abrasive tool used to remove the glaze from cylinder walls so that a new set of rings will seat. b) Same.
DEGREE WHEEL	a) A wheel-like unit that is attached to the engine crankshaft. It is used to time the valves to a high degree of accuracy. b) A tool designed to time valves exactly.
DETENT BALL AND SPRING	a) A spring loaded ball that snaps into a groove or notch to hold some sliding object in position. b) Same.
DIAPHRAGM	a) A flexible rubber sheet that is placed across an area thereby separating the two different compartments. b) Same.
DIE (Forming)	a) One of a matched pair of hardened steel blocks that are used to form metal into a desired shape. b) Same.

CYLINDER

CYLINDER HEAD

CYLINDER HONE

CYLINDER SLEEVE

DEGLAZER

DEGREE WHEEL

DETENT BALL AND SPRING

DIAPHRAGM

DIE (Forming)

a) PRIMARY
b) SECONDARY

DIFFERENTIAL	a) A train of gears that will drive both rear axles at the same time but will allow them to turn at different speeds when making turns. b) The center gear section of an automobile rear end.
DIFFERENTIAL CASE	a) The steel unit to which the ring gear is attached. The case drives the spider gears and forms an inner bearing surface for the axle and gears. b) Same.
DIRECTIONAL STABILITY (Steering)	a) Ability of a car to move forward in a straight line with a minimum of driver control. A car with good directional stability will not be unduly affected by side wind, road irregularities, etc. b) The handling ease of an automobile.
DISC	a) The rotor or revolving round piece of metal in disc brakes. b) A brake part that the brake shoes squeeze to stop the car.
DISC WHEEL	a) A wheel constructed of stamped steel. b) Example: Most automobile wheels.
DISPLACEMENT BY THE PISTON	a) The total volume of air moved out of the engine by the piston traveling from bottom dead center to top dead center. b) Same.
DISSIPATE	a) Give off heat to surroundings. b) Same.
DISTILLATION	a) Heating a liquid and then catching and condensing the vapors given off by the heating process. b) Same.
DISTRIBUTION TUBES (Cooling System)	a) Tubes used in the engine cooling area to guide and direct the flow of coolant to vital areas. b) Same.

DIFFERENTIAL

DIFFERENTIAL CASE

DIRECTIONAL STABILITY
(Steering)

DISC

DISC WHEEL

DISPLACEMENT BY
THE PISTON

DISSIPATE

DISTILLATION

DISTRIBUTION TUBES
(Cooling System)

a) PRIMARY
b) SECONDARY

DISTRIBUTOR (Ignition)	a) A unit designed to make and break the ignition primary circuit and to distribute the high secondary voltage to the proper cylinder at the correct time. b) Provides electrical current to fire the cylinders.
DISTRIBUTOR CAP (Ignition)	a) An insulated cap containing a central terminal with a series (one per cylinder) of terminals that are evenly spaced in a circular pattern around the central terminal. The secondary voltage travels to the central terminal where it is then channeled to one of the outer terminals by the rotor. b) Located on top of the distributor and helps send spark to the proper cylinder.
DOUBLE FLARE	a) The end of the tubing, especially brake tubing, has a flare so made that the flare area utilizes two wall thicknesses. This makes a much stronger joint and from a safety standpoint, it is a must. b) Same.
DOWEL PIN	a) A steel pin, passed through or partly through, two parts to provide proper alignment. b) Same.
DRAW (Forming)	a) To form (such as wire) by pulling the wire stock through a series of hardened dies. b) Same.
DRAW (Temper)	a) The process of removing the hardness from a piece of metal. b) Same.
DRAW-FILING	a) Filing by passing the file, at right angles, up and down the length of the work. b) Same.
DRILL PRESS	a) A nonportable machine used for drilling. b) Same.

DISTRIBUTOR
(Ignition)

DISTRIBUTOR CAP
(Ignition)

DOUBLE FLARE

DOWEL PIN

DRAW (Forming)

DRAW (Temper)

DRAW-FILING

DRILL PRESS

a) PRIMARY
b) SECONDARY

DRIVE-FIT	a) A fit between two parts when they must be literally driven together. b) Same.
DRIVE SHAFT	a) The shaft connecting the transmission output shaft to the differential pinion shaft. b) Same.
DROP CENTER RIM	a) The center section of the rim being lower than the two outer edges. This allows the bead of the tire to be pushed into the low area on one side while the other side is pulled over and off the flange. b) Same.
DROP FORGED	a) A part that has been formed by heating the steel blank red hot and pounding it into shape with a powerful drop hammer. b) Same.
DRY CELL or DRY BATTERY	a) A battery (like a flashlight battery) that uses no liquid electrolyte. b) Same.
DRY CHARGED BATTERY	a) A battery with the plates charged but lacking electrolyte. When ready to be placed in service, the electrolyte is added. b) Same.
DRY SLEEVE	a) A cylinder sleeve application in which the sleeve is supported in the block metal over its entire length. The coolant does not touch the sleeve itself. b) Same.
DUAL BRAKES	a) Tandem or dual master cylinder to provide separate brake system for both front and rear of car. b) Same.
DUAL BREAKER POINTS (Ignition)	a) A distributor using two sets of breaker points to increase the cam angle so that at high engine speeds, sufficient spark will be produced to fire the plugs. b) Same.

DRIVE-FIT

DRIVE SHAFT

DROP CENTER RIM

DROP FORGED

DRY CELL or
DRY BATTERY

DRY CHARGED BATTERY

DRY SLEEVE

DUAL BRAKES

DUAL BREAKER POINTS
(Ignition)

a) PRIMARY
b) SECONDARY

DYNAMIC BALANCE	a) When the center line of the weight mass of a revolving object is in the same plane as the center line of the object, that object would be in dynamic balance. For example, the weight mass of the tire must be in the same plane as the center line of the wheel. Spin Balancing. b) Balancing a wheel so it rotates without vibration.
DYNAMOMETER	1. a) A machine used to measure horespower. b) Same. 2. a) Engine dyno measures horsepower at crankshaft. b) Same. 3. a) Chassis dyno measures horespower at rear wheels. b) Same.
EARTH (Electrical)	a) British term for ground. b) Same.
ECCENTRIC (Off Center)	a) Two circles, one within the other, neither sharing the same center. b) Example: A cam lobe on a cam shaft.
ECONOMIZER VALVE	a) A fuel flow control device within the carburetor. b) A device designed to save gasoline.
EFFICIENCY	a) The ratio of work being done or the energy developed (usually by a machine) to the energy supplied to it. b) Example: Measuring the gas mileage of an automobile.
ELECTROCHEMICAL	a) Chemical (battery) production of electricity. b) Example: Auto battery produces current through a chemical action.

DYNAMIC BALANCE

DYNAMOMETER (1)

(2)

(3)

EARTH (Electrical)

ECCENTRIC (Off Center)

ECONOMIZER VALVE

EFFICIENCY

ELECTROCHEMICAL

a) PRIMARY
b) SECONDARY

ELECTRODE (Spark Plug)	a) The center rod passing through the insulator forms one electrode. The rod welded to the shell forms another. They are referred to as the center and side electrodes. b) Same.
ELECTRODE (Welding)	a) The metal rod that is used in arc welding. b) Same.
ELECTROLYTE	a) Sulphuric acid and water solution in the battery. b) Same.
ELECTROMAGNET	1. a) A magnet produced by placing a coil of wire around a steel or iron bar. When current flows through the coil, the bar becomes magnetized and will remain so as long as the current continues to flow. b) A magnet operated by electricity. 2. a) Magnetic (generator) production of electricity. b) Same.
ELECTRON	a) A negatively charged particle that makes up part of the atom. b) Causes current to flow in a wire.
ELECTROPLATE	a) The process of depositing gold, silver, chrome, nickel, etc., upon an object by placing the object in a special solution and then passing an electric current through the solution. The object forms one terminal, a special electrode the other. Direct current is used. b) Example: Chrome plating car parts.
ELEMENT (Battery)	a) A group of plates. Three elements for a six-volt six elements for the twelve-volt battery. The elements are connected in series. b) Same.
EMF	a) Electromotive force. (Voltage) b) Same.
ENERGY	a) Ability to do work. b) Same.

ELECTRODE (Spark Plug)

ELECTRODE (Welding)

ELECTROLYTE

ELECTROMAGNET (1)

(2)

ELECTRON

ELECTROPLATE

ELEMENT (Battery)

EMF

ENERGY

a) PRIMARY
b) SECONDARY

ENGAGE	a) To join together two or more parts usually rotating. b) To link two parts together.
EP	a) Extreme Pressure - A lubricant compounded to withstand very heavy loads imposed on gear teeth. b) Same.
ETHYL GASOLINE	a) Gasoline to which Ethyl fluid has been added to improve the gasoline's resistance to knocking. b) Gasoline with a chemical added.
ETHYLENE GLYCOL	a) A chemical solution added to the cooling system to protect against freezing. b) Permanent antifreeze.
EVAPORATOR	a) The unit in an air conditioning system used to transform refrigerant from a liquid to a gas. It is at this point that cooling takes place. b) The part of the air conditioner that cools the air.
EXHAUST	a) The burned and unburned gases that are left after combustion. b) What remains after the air-fuel mixture is burned in the engine.
EXHAUST GAS ANALYZER	a) An instrument used to check the exhaust gases to determine combustion efficiency. b) A tool for testing engine exhaust gases.
EXHAUST MANIFOLD	a) Connecting pipes between the exhaust ports and the exhaust pipe. b) Pipe or pipes that are bolted directly to the engine block.
EXHAUST PIPE	a) Pipe connecting exhaust manifold to muffler. b) Same.

ENGAGE

EP

ETHYL GASOLINE

ETHYLENE GLYCOL

EVAPORATOR

EXHAUST

EXHAUST GAS ANALYZER

EXHAUST MANIFOLD

EXHAUST PIPE

a) PRIMARY
b) SECONDARY

EXHAUST VALVE (Engine)	a) The valve by which the burned fuel charge passes on its way from the cylinder to the exhaust manifold. b) The valve that releases burned gases from the engine.
F-HEAD ENGINE	a) An engine having one valve in the head and the other in the block. b) Same.
FIBER GLASS	a) A mixture of glass fibers and resin that when cured (hardened) produces a very light and strong material. It is used to build boats, car bodies, repair damaged areas, etc. b) Same.
FINISHING STONE (Hone)	a) A fine stone used for final finishing during honing. b) Example: Finishing a cylinder before installing piston and rings.
FIT	a) Contact area between two parts. b) Same.
FLARING TOOL	a) A tool used to form flare connections on tubing. b) Same.
FLAT CRANK	a) A crankshaft having one of the bearing journals out-of-round. b) Same.
FLAT HEAD	a) An engine with all the valves in the block. b) Same.
FLAT SPOT	a) Refers to a spot during an acceleration period where the engine seems to "fall on its face" for a second or so and will then begin to pull again. b) Engine does not accelerate smoothly.
FLOODING	a) A condition where the fuel mixture is overly rich or an excessive amount has reached the cylinders. Starting will be difficult and sometimes impossible until the condition is corrected. b) Too much fuel entering the cylinders.

EXHAUST VALVE (Engine)

F-HEAD ENGINE

FIBER GLASS

FINISHING STONE (Hone)

FIT

FLARING TOOL

FLAT CRANK

FLAT HEAD

FLAT SPOT

FLOODING

a) PRIMARY
b) SECONDARY

FLUTE	a) A groove in a cutting tool that forms a passageway for the exit of chips removed during the cutting process. b) Example: Groove in a twist drill.
FLUX (Magnetic)	a) The lines of magnetic force moving through a magnetic field. b) Same.
FLUX (Soldering, Brazing)	a) An ingredient placed on metal being soldered or brazed, to remove and prevent the formation of surface oxidization which would make soldering or brazing difficult. b) A chemical used to make soldering easy.
FLYWHEEL RING GEAR	a) A gear on the outer circumference of the flywheel. The starter drive gear engages the ring gear and cranks the engine. b) Gear attached to flywheel used to rotate the engine.
FORCE-FIT	a) Same as drive fit. b) Two parts that fit together very tightly.
FOUR-STROKE CYCLE ENGINE	a) An engine requiring two complete revolutions of the crankshaft to fire each piston once. b) An engine whose piston fires every other time it reaches the top of its travel.
FREEZING	a) When two parts that are rubbing together heat up and force the lubricant out of the area, they will gall and finally freeze or stick together. b) The welding together of parts due to friction.
FREON-12	a) A gas used as the cooling medium in air conditioning and refrigeration systems. b) Same.
FRICTION BEARING	a) A bearing made of babbitt, bronze, etc. There are no moving parts and the shaft that rests in the bearing merely rubs against the friction material in the bearing. b) A bearing surface made of soft pliable metal and containing moving parts.

FLUTE

FLUX (Magnetic)

FLUX (Soldering, Brazing)

FLYWHEEL RING GEAR

FORCE-FIT

FOUR-STROKE
CYCLE ENGINE

FREEZING

FREON-12

FRICTION BEARING

a) PRIMARY
b) SECONDARY

FUEL INJECTION	a) A fuel system that uses no carburetor but sprays fuel either directly into the cylinders or into the intake manifold just ahead of the cylinders. b) Same.
FUEL MIXTURE	a) A mixture of gasoline and air. An average mixture, by weight, would contain 16 parts of air to one part of gasoline. b) Air and gasoline being blended together.
FUEL PUMP	a) A vacuum device, operated either mechanically or electrically, that is used to draw gasoline from the tank and force it into the carburetor. b) A device that pumps fuel to the carburetor.
FULL-FLOW OIL FILTER	a) An oil filter that filters all of the oil passing through the engine - before it reaches the bearings. b) Same.
GAS	a) A non-solid material. It can be compressed. When heated, it will expand and when cooled, it will contract, (such as air). b) Same.
GASOLINE	a) A hydrocarbon fuel used in the internal combustion engine. b) A combustible liquid used in engines for fuel.
GASSING	a) The small hydrogen bubbles rising to the top of the battery electrolyte during battery charging. b) Gas being released from the battery.
GEAR RATIO	a) The relationship between the number of turns made by a driving gear to complete one full turn of the driven gear. If the driving gear turns four times to turn the driven gear once, the gear ratio would be four to one. b) A measurement of the amount of times the driving gear turns compared to the amount the driven gear is turned.

FUEL INJECTION

FUEL MIXTURE

FUEL PUMP

FULL-FLOW OIL FILTER

GAS

GASOLINE

GASSING

GEAR RATIO

a) PRIMARY
b) SECONDARY

GEARSHIFT	a) A device for selecting or connecting gears for transmitting power. b) A transmission linkage for changing gears.
GENERATOR	a) An electromagnetic device for producing electricity, can produce either AC or DC. b) A device that produces electricity.
GLASS PACK MUFFLER	a) A straight through (no baffles) muffler utilizing fiber glass packing around a perforated pipe to deaden exhaust sound. b) Same.
GLAZE	a) A highly smooth, glassy finish on the cylinder walls. b) Same.
GLAZE BREAKER OR DEGLAZER	a) An abrasive tool used to remove the glaze from cylinder walls prior to the installation of new piston rings. b) Same.
GRID	a) The lead screen or plate to which the battery plate active material is affixed. b) A source of energy for supplying electrical current.
GRIND	a) To remove metal from an object by means of a revolving abrasive wheel, disc or belt. b) Same.
GROUND (Battery)	a) Terminal of battery that is connected to the metal framework of the car. In this country the negative terminal is grounded. b) The negative post of a battery marked neg. or - .
GROWLER	a) An instrument used in testing starter and generator armature. b) Same.
GUM (Fuel System)	a) Oxidized portions of the fuel that form deposits in the fuel system or engine parts. b) Same.

GEARSHIFT

GENERATOR

GLASS PACK MUFFLER

GLAZE

GLAZE BREAKER
OR DEGLAZER

GRID

GRIND

GROUND
(Battery)

GROWLER

GUM
(Fuel System)

a) PRIMARY
b) SECONDARY

HALF-MOON KEY	a) A driving key serving the same purpose as the regular key but it is shaped somewhat like a half circle. b) A piece of steel shaped like a half moon used to keep a round shaft in alignment with a part mounted on it.
HARMONIC BALANCER	See Vibration Damper
HEAT CROSSOVER (V-8 Engine)	a) A passage from one exhaust manifold up, over and under the carburetor and on to the other manifold. This crossover provides heat to the carburetor during engine warmup. b) Same.
HEAT EXCHANGER	a) A device, such as a radiator, either used to cool or heat by transfering heat from one object to another. b) Same.
HEAT RANGE (Spark Plugs)	a) Refers to the operating temperature of a given style plug. Plugs are made to operate at different temperatures depending upon the thickness and length of the insulator as measured from the sealing ring down to the tip. b) The temperature at which a spark plug operates efficiently.
HEAT RISER	a) An area, surrounding a portion of the intake manifold, through which exhaust gases can pass to heat the fuel mixture during warmup. b) Same.
HEEL (Gear Tooth)	a) The wide end of a tapered gear tooth such as found in the differential gears. b) Same.
HELICAL	a) A spiraling shape such as that made by a coil spring. b) Same.
HELICAL GEAR	a) A gear that has the teeth cut at an angle to the center line of the gear. b) Same.

HALF-MOON KEY ________________________
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HARMONIC BALANCER ________________________
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HEAT CROSSOVER
(V-8 Engine) ________________________
____
____

HEAT EXCHANGER ________________________
____

HEAT RANGE
(Spark Plugs) ________________________
____
____
____

HEAT RISER ________________________
____
____

HEEL
(Gear Tooth) ________________________
____

HELICAL ________________________
____

HELICAL GEAR ________________________
____

a) PRIMARY
b) SECONDARY

HEMI	a) Engine using hemispherical-shaped (half of globe) combustion chambers. b) Same.
HEMISPHERICAL COMBUSTION CHANGER	a) A round, dome-shaped combustion chamber that is considered by many to be one of the finest shapes ever developed. The hemispherical-shape lends itself to the use of large valves for improved breathing and suffers somewhat less heat loss than other shapes. b) The combustion chamber is shaped like the inside of a tennis ball that is cut in half.
HERRINGBONE GEARS	a) Two helical gears operating together and so placed that the angle of the teeth form a "V" shape. b) Same.
HIGH COMPRESSION HEADS	a) A cylinder head with a smaller combustion chamber area thereby raising the compression. The head can be custom built or can be a stock head milled (cut) down. b) A special cylinder head modified to increase engine power.
HIGH TENSION	a) High voltage from the ignition coil. May also indicate the secondary wire from the coil to the distributor and wires from distributor to plugs. b) Refers to 20,000 volts produced in the coil. Secondary wires carry the high voltage.
HONE	a) To remove metal with a fine grit abrasive stone to precise tolerances. b) Same.
HORIZONTAL-OPPOSED ENGINE	a) An engine possessing two banks of cylinders that are placed flat or 180 degrees apart. (like VW or Corvair) b) Same.
HORSEPOWER-WEIGHT FACTOR	a) The relationship between the total weight of the car and the horsepower available. By dividing the weight by the horsepower, the number of pounds to be moved by one horsepower is determined. This factor has a great effect on acceleration, gas mileage and all around performance. b) Same.

HEMI

HEMISPHERICAL COMBUSTION CHANGER

HERRINGBONE GEARS

HIGH COMPRESSION HEADS

HIGH TENSION

HONE

HORIZONTAL-OPPOSED ENGINE

HORSEPOWER-WEIGHT FACTOR

a) PRIMARY
b) SECONDARY

HOT WIRE	a) A wire connected to the battery or to some part of the electrical system in which a direct connection to the battery is present. A current-carrying wire. b) A wire where electrical current is always available.
HUB	a) The central part of a wheel as that part that revolves on the spindle or axle. b) The center part of the wheel where the mounting holes are located.
HYATT ROLLER BEARING (Antifriction)	a) Similar to a conventional roller bearing except that the rollers are hollow and are split in a spiral fashion from end to end. b) Same.
HYDRAULIC	a) Fluids under pressure for transferring force, transferring motion or increasing force, i. e., brakes, automatic transmissions and power steering. b) A fluid under pressure operating a mechanical device. Example: Hydraulic jack.
HYDRAULIC BRAKES	a) Brakes that are operated by hydraulic pressure. A master cylinder provides operating pressure that is transmitted via steel tubing to wheel cylinders that in turn apply the brake shoes to the brake drums. b) Brakes that are applied by the pressure of a fluid.
HYDRAULIC LIFTER	a) A valve lifter that utilizes hydraulic pressure from the engine's oiling system to keep it in constant contact with both the camshaft and the valve stem. They automatically adjust to any variation in valve stem length. b) Same.
HYDROCARBON-UNBURNED	a) Hydrocarbons that were not burned during the normal engine combustion process. Unburned hydrocarbons make up about 0.1 percent of the engine exhaust emission. b) Same.

HOT WIRE

HUB

HYATT ROLLER BEARING
(Antifriction)

HYDRAULIC

HYDRAULIC BRAKES

HYDRAULIC LIFTER

HYDROCARBON-UNBURNED

a) PRIMARY
b) SECONDARY

HYDROCARBONS	a) Combination of hydrogen and carbon atoms. All petroleum based fuels (gasoline, kerosene, etc.) consist of hydrocarbons. b) Same.
HYDROMETER	a) A float device for determining the specific gravity of the electrolyte in a battery. This will determine the state of charge. b) A tool for testing the condition of a battery.
HYPOID GEARING	a) A system of gearing wherein the pinion gear meshes with the ring gear below the center line of the ring gear. This allows a somewhat lower drive line thus reducing the hump in the floor of the car. For this reason hypoid gearing is used in the differential on many cars. b) A mating of the ring and pinion gears at or near the bottom of the differential carrier.
IDLE VALVE OR IDLE NEEDLE	a) A needle used to control the amount of fuel mixture reaching the cylinders during idling. It, or they, may be adjusted by turning the exposed heads. b) Same.
I-HEAD ENGINE	a) An engine having both valves in the head. b) Commonly called the overhead valve engine.
IHP	a) Indicated Horsepower - measurement of the power developed by burning fuel in the cylinders. b) Same.
IMPACT WRENCH	a) An air or electrical-driven wrench that tightens or loosens nuts, capscrews, etc., with a series of sharp, rapid blows. b) Same.
IMPELLER	a) A wheel-like device upon which fins are attached. It is whirled to pump water, move and slightly compress air, etc. b) Same.
IMPREGNATED	a) The tiny holes or voids in a piece (usually a bushing) that are filled with a lubricant. b) Same.

HYDROCARBONS

HYDROMETER

HYPOID GEARING

IDLE VALVE OR
IDLE NEEDLE

I-HEAD ENGINE

IHP

IMPACT WRENCH

IMPELLER

IMPREGNATED

a) PRIMARY
b) SECONDARY

INDICATOR	a) A pointing or directing device to make something know, i. e., water temperature gage. b) Same.
INEFFICIENT	a) Not efficient, wasteful. b) Not producing at maximum capacity.
IN-LINE ENGINE	a) An engine in which all the cylinders are arranged in a straight row. b) Same.
INPUT	a) The power supplied to a device or machine. b) Power put into a machine.
INPUT SHAFT	a) The shaft delivering power into a mechanism. The shaft from the clutch into the transmission is the transmission input shaft. b) The shaft that supplies power to a device. Example: Drive shaft powers the rear end.
INSERT BEARING	a) A removable, precision made bearing which insures specified clearance between bearing and shaft. b) A replaceable bearing.
INTEGRAL	a) Part of the whole component part. b) A necessary part. Example: Wheels for a car.
JET	a) A small hole or orifice used to control the flow of gasoline in various parts of the carburetor. b) A nozzle through which gas flows.
KILL SWITCH	a) A special switch designed to shut off the ignition in case of an emergency. b) A switch which disconnects electrical current from the distributor, stopping the engine.
KILOMETER	a) A metric measurement equivalent to 5/8 of a mile. b) A type of measure used in most European countries.

INDICATOR ______________________________

____

INEFFICIENT ______________________________

____

IN-LINE ENGINE ______________________________

____

INPUT ______________________________

____

INPUT SHAFT ______________________________

____

____

INSERT BEARING ______________________________

____

____

INTEGRAL ______________________________

____

JET ______________________________

____

____

KILL SWITCH ______________________________

____

KILOMETER ______________________________

____

a) PRIMARY
b) SECONDARY

KNOCKING (Bearing)	a) Noise created by part movement in a loose or worn bearing. b) Noise made by a poorly fit bearing.
KNOCKING (Fuel)	a) A condition, accompanied by an audible noise, that occurs when the gasoline in the cylinders burns too quickly. This is also referred to as detonation. b) The sound made by fuel burning too quickly in a cylinder.
LACQUER (Paint)	a) A fast-drying automotive body paint. b) A fast-drying paint that leaves a hard surface.
LAMINATED	a) Something made up of many layers. b) Thin sheets glued together.
LAND	a) The metal separating a series of grooves. b) Same.
LAND (Ring)	a) The piston metal between the ring grooves. b) The surface between two ring grooves on a piston.
LAP OR LAPPING	a) To fit two surfaces together by coating them with abrasive and then rubbing them together. b) To smooth two surfaces so they fit together perfectly.
lb.	a) Pound. b) A short way of writing pound.
LEAF SPRING	a) A suspension spring made up of several pieces of flat spring steel. Varying numbers of leaves (individual pieces) are used depending on the intended use. One car uses a single leaf in each rear spring. b) Different lengths of flat spring steel one on top of the other.
LETTER DRILLS	a) A series of drills in which each drill size is marked by a letter of the alphabet: A, B, C, etc. b) Same.

KNOCKING (Bearing) ____________________

KNOCKING (Fuel) ____________________

LACQUER (Paint) ____________________

LAMINATED ____________________

LAND ____________________

LAND (Ring) ____________________

LAP OR LAPPING ____________________

lb. ____________________

LEAF SPRING ____________________

LETTER DRILLS ____________________

a) PRIMARY
b) SECONDARY

L-HEAD ENGINE		a) An engine having both valves in the block and on the same side of the cylinder. b) Engine with all valves in the block in a line on one side of the cylinder.
LIGHTENED VALVES		a) Valves in which all possible metal has been ground away to reduce weight. This will allow higher rpm without valve float. b) Valves with all excess weight removed, designed for high engine speeds.
LIMITED-SLIP DIFFERENTIAL		a) A differential unit designed to provide superior traction by transferring driving torque, when one wheel is spinning, to the wheel that is not slipping. b) A differential that drives both rear wheels.
LIMITS	(1)	a) Usually a specification having certain tolerance either over or under an exact figure. b) The extreme acceptable measurement.
	(2)	a) Some type of governor used to control the pressure or speed. b) Same.
LINKAGE		a) Movable bars or links connecting one unit to another. b) Example: Bicycle chain. (Linking pedals to rear wheel)
LIVE AXLE		a) An axle upon which the wheels are firmly affixed. The axle drives the wheels. b) An axle that drives the rear wheel.
LONG AND SHORT ARM SUSPENSION		a) A suspension system utilizing an upper and lower control arm. The upper arm is shorter than the lower. This is done so as to allow the wheel to deflect in a vertical direction with a minimum change in camber. b) Independent front suspension having an upper control arm shorter than the lower control arm.
LONGITUDINAL LEAF SPRING		a) A leaf spring that is mounted so that it is parallel to the length of the car. b) Leaf spring connected along the length of the frame.

L-HEAD ENGINE

LIGHTENED VALVES

LIMITED-SLIP DIFFERENTIAL

LIMITS (1)

(2)

LINKAGE

LIVE AXLE

LONG AND SHORT ARM SUSPENSION

LONGITUDINAL LEAF SPRING

a) PRIMARY
b) SECONDARY

LOW BRAKE PEDAL	a) A condition where the brake pedal approaches too close to the floorboard before actuating the brakes.	b) Brakes do not apply until the pedal is almost touching the floor.
LPG	a) Liquefied petroleum gas.	b) Same.
LUG (Engine)	a) To cause the engine to labor by failing to shift to a lower gear when necessary.	b) Engine being overworked due to the failure to shift gears.
MAGNAFLUX	a) A special chemical process, used to check parts for cracks.	b) A method used to find cracks in metal.
MAGNET (Permanent)	a) A piece of magnetized steel that will attract all ferrous material. The permanent magnet does not need electricity to function and will retain its magnetism over a period of years.	b) A piece of iron or steel that naturally attracts other iron or steel.
MAGNETIC	a) Either a piece of metal or an electromagnet that attracts iron or ferrous metal.	b) Same.
MAGNETIC FIELD	a) The area encompassed by the magnetic lines of force surrounding either a bar magnet or electromagnet.	b) An invisible field of force around a magnet.
MAGNETO	a) An engine driven unit that generates high voltage to fire the spark plugs. It needs no outside source of power such as a battery.	b) A self-generating source of power that supplies spark to the spark plugs.
MAIN BEARING SUPPORTS	a) A steel plate that is installed over the main bearing caps to increase their strength for racing purposes.	b) A steel plate or strap bolted to the main bearing cap for added strength.

LOW BRAKE PEDAL

LPG

LUG (Engine)

MAGNAFLUX

MAGNET (Permanent)

MAGNETIC

MAGNETIC FIELD

MAGNETO

MAIN BEARING SUPPORTS

a) PRIMARY
b) SECONDARY

MANDREL	a) A round shaft used to mount a stone, cutter, saw, etc. b) Same.
MANIFOLD	a) A pipe or number of pipes with a series of inlets or outlets connected to a common opening. b) Same.
MANIFOLD (Intake)	a) Connecting tubes between the base of the carburetor and port opening to intake valves. b) Engine part that provides a path for fuel-air mixture to travel from the carburetor to the intake parts of the head.
MANIFOLD (Exhaust)	a) Connecting tubes between exhaust parts and exhaust pipe. b) An arrangement of pipes bolted directly to the exhaust parts of the head.
MASTER CYLINDER	a) The part of the hydraulic brake system in which pressure is generated. b) A brake part that compresses the brake fluid and causes the brakes to be applied.
MECHANICAL BRAKES	a) Service brakes that are actuated by a mechanical linkage connecting the brakes to the brake pedal. b) Brakes that rely on mechanical leverage and does not use hydraulic pressure to apply the brakes.
MECHANICAL EFFICIENCY	a) An engine's rating as to how much of the potential horsepower is wasted through friction within the moving parts of the engine. b) Amount of power produced by an engine compared to the amount of power wasted by its operation.
MEP	a) Mean Effective Pressure. The pressure of the burning fuel (average) on the power stroke subtracted by the average pressure on the other three strokes. Pressure is in pounds per square inch. b) Same.

MANDREL

MANIFOLD (Intake

MANIFOLD (Intake)

MANIFOLD (Exhaust)

MASTER CYLINDER

MECHANICAL BRAKES

MECHANICAL EFFICIENCY

MEP

a) PRIMARY
b) SECONDARY

METAL FATIGUE	a) A crystallizing of the metal due to vibration, twisting, bending, etc. The unit will eventually break. Bending a piece of wire back and forth to break it is a good example of metal fatigue. b) Breaking down of a metals strenth causing it to fail.
METERING ROD	a) A movable rod used to vary the opening area through a carburetor jet. b) A rod that controls the flow of gasoline through a carburetor jet.
METRIC SIZE	a) Units made to metric system measurements. b) Decimal system of weights and measures.
MILL	a) To remove metal through the use of a rotating toothed cutter. b) Example: Removing metal from the bottom of a cylinder head to increase compression.
MILLIMETER	a) A metric measurement equivalent to .039370 of an inch. b) Same.
MILLING MACHINE	a) A machine that uses a variety of rotating cutter wheels to cut splines, gears, keyways, etc. b) A machine used to cut metal to desired shapes.
MISFIRE	a) The fuel charge in one or more engine cylinders which fails to fire or ignite at the proper time. b) When an engine does not fire all its cylinders properly.
MODULATOR (Transmission)	a) A pressure control or adjusting valve used in the hydraulic system of the automatic transmission. b) Changes as needed - the hydraulic line pressure inside the transmission.
MOLD	a) The hollow unit into which molten metal is poured to form a casting. b) Same.
MOTOR	a) An electrically-driven power unit (electric motor). This term is often incorrectly applied to an internal combustion engine. b) A device driven by electricity that produces power to do work.

METAL FATIGUE

METERING ROD

METRIC SIZE

MILL

MILLIMETER

MILLING MACHINE

MISFIRE

MODULATOR
(Transmission)

MOLD

MOTOR

a) PRIMARY
b) SECONDARY

MOTOR (Generator)	a) Attaching a generator to a battery in such a way it revolves like an electric motor. b) Applying electrical current to the generator causing it to turn.
MPH	a) Speed in miles per hour. b) Same.
MUFFLER	a) A unit through which the exhaust gases are passed to quiet the sounds of the running engine. b) Same.
MULTIPLE DISC CLUTCH	a) A clutch utilizing several clutch discs in its construction. b) Same.
MULTI-VISCOSITY OILS	a) Oils meeting S.A.E. requirements for both low temperature requirements of a light oil and the high temperature requirements of a heavy oil. Example: (S.A.E. 10W - 30) b) An oil that has the ability to chemically change its weight as engine temperature changes.
NEEDLE BEARING (Antifriction)	a) A roller type bearing in which the rollers have a very narrow diameter in relation to their length. b) A bearing shaped like a needle with its tips cut off.
NEGATIVE TERMINAL	a) That terminal (such as that on the battery) from which the current flows on its path to the positive terminal. b) The connecting point that electrical current flows from traveling toward positive.
NEUTRAL	a) The position or state of disengaged gears or other interconnecting parts. b) Example: The transmission is disconnected from the rear wheels.
NEWTON'S LAW	a) For every action there is an equal, an opposite reaction. b) Same.

MOTOR (Generator)

MPH

MUFFLER

MULTIPLE DISC CLUTCH

MULTI-VISCOSITY OILS

NEEDLE BEARING
Antifriction)

NEGATIVE TERMINAL

NEUTRAL

NEWTON'S LAW

a) PRIMARY
b) SECONDARY

NITROGEN OXIDES	a) In the combustion process, nitrogen from the air combines with oxygen to form nitrogen oxides. Forms photochemical smog. b) Exhaust gasses that cause smog.
NONFERROUS METALS	a) All metals containing no iron (except in very minute quantities). b) Same.
NORTH POLE (Magnet)	a) The magnetic pole from which the lines of force emanate; travel is from north to south pole. b) Same.
NUMBER DRILLS	a) A series of drills in which each size is designated by a number (0 - 80). b) Drills having number sizes instead of fractional sizes.
OFFSET	a) An abrupt bend in a pipe, rod, bar, etc. to serve a particular purpose, i. e., offset screwdriver. b) A 90° angle turn in a device designed for clearance. Example: Offset screwdriver.
OHMMETER	a) An instrument used to measure the amount of resistance in a given unit or circuit, (in ohms). b) A meter used to measure resistance to current flow.
OIL BATH AIR CLEANERS	a) An air cleaner that utilizes a pool of oil to insure the removal of impurities from the air entering the carburetor. b) An air cleaner that passes all air over oil before it enters the carburetor.
OIL - COMBINATION SPLASH AND PRESSURE SYSTEM	a) An engine-oiling system that uses both pressure and splash-oiling to accomplish proper lubrication. b) Engine using both oil pump and a slinger or dipper to lubricate the engine.
OIL FILTER	a) A device used to strain the oil in the engine thus removing abrasive particles. b) A device for removing foreign material from oil.

NITROGEN OXIDES

NONFERROUS METALS

NORTH POLE (Magnet)

NUMBER DRILLS

OFFSET

OHMMETER

OIL BATH AIR CLEANERS

OIL-COMBINATION SPLASH AND PRESSURE SYSTEM

OIL FILTER

a) PRIMARY
b) SECONDARY

OUTPUT	a) Act of burning out. b) Amount of work produced.
OUTPUT SHAFT	a) The shaft delivering power from within a mechanism. b) Example: The driveshaft delivers power to the rear wheels.
OVERFLOW	a) Something too full and ran over either from incorrect filling or heating up. b) Same.
OVERHEAD CAMSHAFT	a) A camshaft mounted above the head. It is driven by a long timing chain. b) A camshaft mounted above the valves in the head and not in the block.
OVERHEATING	a) Something which got too hot due to a malfunction of a system or neglect. b) Same.
OVERLOAD	a) Put too much load or strain on an object. b) To push a device beyond its capacity.
OVERRUNNING CLUTCH STARTER DRIVE	a) A starter drive that is mechanically engaged. When the engine starts, the overrunning clutch operates until the drive is mechanically disengaged. b) Same.
OVERSQUARE ENGINE	a) An engine in which the bore diameter is larger than the length of the stroke. b) An engine whose bore is larger than its stroke
OVERSTEER	a) The tendency for a car, when negotiating a corner, to turn more sharply than the driver intends. b) Tendency for auto to steer further in a direction than the driver intended.
PAN	a) A thin stamped cover that is bolted to the bottom of the crankcase. It forms a sump for the engine oil and keeps dirt, etc., from entering the engine. b) Bolts to the bottom of the engine block. It contains the engine oil.

OUTPUT

OUTPUT SHAFT

OVERFLOW

OVERHEAD CAMSHAFT

OVERHEATING

OVERLOAD

OVERRUNNING CLUTCH
STARTER DRIVE

OVERSQUARE ENGINE

OVERSTEER

PAN

a) PRIMARY
b) SECONDARY

PANCAKE ENGINE	a) An engine in which the cylinders are on a horizontal plane. This reduces the overall height and enables them to be used in spots where vertical height is restricted. Like a VW or a Corvair. b) An engine in which the pistons are in a flat or horizontal position.
PAPER AIR CLEANER	a) An air cleaner that makes use of special paper through which the air to the carburetor is drawn. b) Air filtering device made of paper.
PARALLEL	a) Straight lines that are the same distance apart. b) Same.
PARALLEL ELECTRICAL CIRCUIT	a) An electrical circuit with two or more resistance units so wired as to permit current to flow through both units at the same time. The current does not have to pass through one unit to reach the other. If one unit burns out, the other will still work. b) A circuit that has two paths for the current to flow through.
PARALLELOGRAM STEERING LINKAGE	a) A steering system utilizing two short tie rods connected to the steering arms and to a long center link. The link is supported on one end on an idler arm and the other end is attached directly to the pitman arm. The arrangement forms a parallelogram shape. b) Same.
PARTICLES	a) A very small piece of dirt (usually) in the air. b) A small piece generally referred to as dirt.
PASCALS LAW	a) "When pressure is exerted on a confined liquid, it is transmitted undiminished." When a pressure is exerted on an enclosed liquid, the pressure is the same anywhere in the system. b) Example: If water inside a container exerts equal pressure on all the containers walls.
PASSAGES	a) Small holes or gallery in which oil or water may flow through. b) Routes for water oil or air to travel throughout the engine.

PANCAKE ENGINE

PAPER AIR CLEANER

PARALLEL

PARALLEL ELECTRICAL CIRCUIT

PARALLELOGRAM STEERING LINKAGE

PARTICLES

PASCALS LAW

PASSAGES

a) PRIMARY
b) SECONDARY

PENETRATING OIL	a) A special oil that is used to free rusted parts so that they can be removed. b) An oil used to loosen rust and corrosion.
PHOTOCHEMICAL	a) Relates to branch of chemistry where radiant energy (sunlight) produces various chemical changes. b) Same.
PILOT SHAFT	a) A dummy shaft that is placed in a mechanism as a means of aligning the parts. It is then removed and the regular shaft installed. b) Shaft used to align the clutch to the flywheel of the engine.
PINGING	a) A metallic rattling sound produced by the engine during heavy acceleration when the ignition timing is too far advanced for the grade of fuel being burned. b) Sharp noise inside the engine, associated with poor grade of fuel and improper timing.
PISTON BOSS	a) The built-up area around the piston pin hole. b) Area of strength around piston pin.
PISTON RING SIDE CLEARANCE	a) The space between the sides of the ring and the ring lands. b) Amount of clearance between the side of the piston ring and the groove in the piston.
PIVOT	a) A pin or short shaft on which a device rocks back and forth or turns, i. e., hinge. b) Hinging device.
PLANETARY GEARS	a) A gearing unit made from a sun gear, planetary gears and a ring gear. The ring gear has internal teeth, the sun or central pinion gear has external teeth and a series of planet gears that are meshed with both the sun and the ring gear. By driving and holding different members different gear ratios can be made. Used mostly in automatic transmissions. b) A gear set consisting of a central sun gear with planet gears revolving around it.

PENETRATING OIL

PHOTOCHEMICAL

PILOT SHAFT

PINGING

PISTON BOSS

PISTON RING SIDE CLEARANCE

PIVOT

PLANETARY GEARS

a) PRIMARY
b) SECONDARY

PLATES (Battery)	a) Thin sections of lead peroxide or porous lead. There are two kinds of plates - positive and negative. The plates are arranged in groups, in an alternate fashion, called elements. They are completely submerged in the electrolyte. b) Same.
PLATINUM	a) A precious metal sometimes used in the construction of breaker points. It conducts well and is highly resistant to burning. b) A rare expensive metal that is a good conductor of electrical current.
PLAY	a) Movement between two parts. b) Same.
PLEXIGLAS	a) A trade name for an acrylic plastic, made by the Rhom and Haas Company. b) A plastic material used as a substitute for plate glass.
PLUG GAPPING	a) Adjusting the side electrode on a spark plug to provide the proper air gap between it and the center electrode. b) Using a measuring device to adjust the proper air gap between spark plug electrodes.
PLY RATING (Tires)	a) An indication of tire strength (load-carrying capacity). Does not necessarily indicate actual number of plies. A two-ply four-ply rating tire would have the load capacity of a four-ply tire of the same size but would have only two actual plies. b) Manufacturer's method of rating thickness of a tires wall construction.
POLARITY (Generator)	a) Shows if the shoes are so magnetized as to make current flow in the proper direction, the same as the battery. b) Same.
POLARITY (Magnet)	a) Indicates if the end of a magnet is the north or south pole (N. or S.). b) Same.

PLATES (Battery)

PLATINUM

PLAY

PLEXIGLAS

PLUG GAPPING

PLY RATING (Tires)

POLARITY (Generator)

POLARITY (Magnet)

a) PRIMARY
b) SECONDARY

POLARIZING (Generator)		a) The process of sending a quick surge of current through the field windings of the generator in a direction that will cause the pole shoes to take the correct polarity. This will insure that the generator will cause current to flow in the same direction as normal. b) To cause the current to flow out of the generator in the proper direction.
POLE (Magnet)		a) One end, either north or south, of a magnet. b) Same.
POLE SHOES		a) Metal pieces about which the field coil windings are placed. When current passes through the windings, the pole shoes become powerful magnets. Example: Pole shoes in a generator or starter motor. b) Metal bolted inside generator case that helps increase magnetic field.
PORCELAIN - CERAMIC INSULATOR (Spark Plug)		a) The material used to insulate the center electrode of a spark plug. It is hard and resistant to damage by heat. b) The outside glass portion of the spark plug used to insulate the spark traveling from the spark plug wire.
POTENTIAL	(1)	a) An indication of the amount of energy available. b) Same.
	(2)	a) Electrical pressure. b) Voltage.
PPM		a) Parts-per-million: Term used in determining extent of pollution existing in given sample of air. b) Same.
PRECISION INSERT BEARING		a) A very accurately made replaceable type of bearing. It consists of an upper and lower shell. The shells are made of steel to which a friction-type bearing material has been bonded. Connecting rod and main bearings are generally of the precision insert type. b) A removable bearing with a hard metal back and a soft metal face.

POLARIZING (Generator)

POLE (Magnet)

POLE SHOES

PORCELAIN
CERAMIC INSULATOR
(Spark Plug)

POTENTIAL (1)

(2)

PPM

PRECISION INSERT BEARING

a) PRIMARY
b) SECONDARY

PREHEATING	a) The application of some heat prior to the later application of more heat. Cast iron is preheated to avoid cracking when the welding process is started. A coil (ignition) is preheated prior to testing. b) Heating prior to use. Example: Heating the air before it enters the carburetor.
PRESS-FIT	a) A condition of fit (contact) between two parts that requires pressure to force the parts together. Also referred to as drive or force fit. b) Two parts that are fit together very tightly.
PRESSURE BLEEDER	a) A device that forces brake fluid, under pressure, into the master cylinder so that by opening the bleeder screws at the wheel cylinders, all air will be removed from the brake system. b) A tool that applies pressure to the hydraulic fluid in the brake system. It allows air to be removed from the system.
PRESSURE CAP	a) A special cap for the radiator. It holds a predetermined amount of pressure on the water in the cooling system. This enables the water to run hotter without boiling. b) Same.
PRESSURE RELIEF VALVE	a) A valve designed to open at a specific pressure. This will prevent pressures in the system from exceeding certain limits. b) A safety device designed to open when the pressure in the system becomes excessive.
PRESSURIZE	a) To compress or squeeze a gas or liquid more than normal. b) Same.
PRIMARY	a) First, coming before. b) Most important.
PRIMARY (Brake Shoe)	a) Smaller brake shoe pointing to the front of the car. b) Leading brake shoe nearest the front of the car.

PREHEATING

PRESS FIT

PRESSURE BLEEDER

PRESSURE CAP

PRESSURE RELIEF VALVE

PRESSURIZE

PRIMARY

PRIMARY (Brake Shoe)

OIL-FULL PRESSURE SYSTEM	a) An engine oiling system that forces oil, under pressure, to the moving parts of the engine.	b) Oil supplied by an oil pump to all moving parts.
OIL GALLERY	a) A pipe or drilled passageway in the engine that is used to carry engine oil from one area to another.	b) A route for oil to travel through the engine.
OIL - ML (Motor Light)	a) Engine oil designed for light duty service under favorable conditions.	b) Same.
OIL - MM (Motor Medium)	a) Engine oil designed for moderate duty service with occasional high speeds.	b) Same.
OIL - MS (Motor Severe)	a) Engine oil designed for high speed, heavy duty operation. Also for a great deal of stop and go driving.	b) Same.
OIL PUMP	a) The device used to force oil, under pressure to various parts of the engine, it is driven by a gear on the camshaft.	b) A device that delivers oil to the engine under pressure.
OIL SEAL	a) A device used to prevent oil leakage past a certain area.	b) Example: Used to seal oil in at the ends of the crankshaft.
OIL SLINGER	a) A device attached to a revolving shaft so that any oil passing that point will be thrown outward where it will return to the oil pan.	b) Same.
OIL-SPLASH SYSTEM	a) An engine oiling system that depends on the connecting rods to dip into oil troughs and splash the oil to all moving parts.	b) An oiling system having no oil pressure pump, relying on slingers and paddles to oil the moving parts.

OIL-FULL PRESSURE
SYSTEM

OIL GALLERY

OIL - ML
(Motor Light)

OIL - MM
(Motor Medium)

OIL - MS
(Motor Severe)

OIL PUMP

OIL SEAL

OIL SLINGER

OIL-SPLASH SYSTEM

a) PRIMARY
b) SECONDARY

PRIMARY (Winding)	a) In coil, low voltage winding. b) The heavier wiring inside the coil connected to battery voltage.
PRIMARY (Circuit)	a) Low voltage side of circuit. b) Part of the ignition system that is served by either six or twelve volts.
PRIMARY WIRES	a) The wiring which serves the low voltage part of the ignition system. Wiring from battery to switch, resistor, coil, distributor points. b) Ignition wires carrying six or twelve volts.
PRINTED CIRCUIT	a) An electrical circuit made by connecting the units with electrically conductive lines printed on a panel. This eliminates actual wire and the task of connecting it. b) Same.
PROGRESSIVE LINKAGE	a) Carburetor linkage designed to open the throttle valves of multiple carburetors. It opens one to start with and when a certain opening point is reached, it will start to open the others. b) Linkage that opens the carburetor in stages, one after the other.
PSI	a) Pounds per square inch. b) Same.
PULSATION DAMPER	a) A device used to smooth out the pulsations or surges of fuel from the fuel pump to the carburetor. b) Same.
PUMPING THE GAS PEDAL	a) Forcing the accelerator up and down, trying to provide extra gasoline to the cylinders. This is often the cause of flooding. b) Same.
QUENCHING	a) Dipping a heated object into water, oil or other substance, to quickly reduce the temperature. b) Same.

PRIMARY (Winding) ______________________________

PRIMARY (Circuit) ______________________________

PRIMARY WIRES ______________________________

PRINTED CIRCUIT ______________________________

PROGRESSIVE LINKAGE ______________________________

PSI ______________________________

PULSATION DAMPER ______________________________

PUMPING THE GAS PEDAL ______________________________

QUENCHING ______________________________

a) PRIMARY
b) SECONDARY

RACE (Bearing)	a) The inner or outer ring that provides a contact surface for the balls or rollers in a bearing. b) The surfaces on both sides of the bearing on which the balls or rollers rotate.
RACK AND PINION GEARBOX (Steering)	a) A type of steering gear utilizing a pinion gear on the end of the steering shaft. The pinion engages a long rack (bar with a row of teeth cut along one edge). The rack is connected directly to the steering arms by rods. b) Same.
RADIAL ENGINE	a) An engine possessing various numbers of cylinders so arranged that they form a circle around the crankshaft center line. b) Airplane engine (piston type).
RADIATION	a) The transfer to heat from one object to another when the hotter object sends out invisible rays or waves that upon striking the colder object, cause it to vibrate and thus heat. b) Transfer of heat.
RANGE	a) The extent or limit of something or how far something can go. b) Same.
RATIO	a) A fixed relationship between things in number quantity or degree. b) Comparison of objects.
REAR AXLE (Banjo Type)	a) A rear axle housing from which the differential unit may be removed while the housing remains in place on the car. The housing is solid from side to side. b) A solid steel housing.
REAR AXLE HOUSING (Split Type)	a) A rear axle housing made up of several pieces and bolted together. The housing must be split apart to remove the differential. b) Steel housing made of two or more pieces which bolt together.

RACE (Bearing)

RACK AND PINION GEARBOX (Steering)

RADIAL ENGINE

RADIATION

RANGE

RATIO

REAR AXLE (Banjo Type)

REAR AXLE HOUSING (Split Type)

a) PRIMARY
b) SECONDARY

RECIPROCATING ACTION	a) A back-and-forth or up-and-down movement such as the action of the pistons. b) Same.
RECIRCULATE	a) Reuse something over and over again. b) Use over and over again. Example: The water that cools the engine.
RECIRCULATING BALL WORM AND NUT	a) A very popular type of steering gear. It utilizes a series of ball bearings that feed through and around and back through the grooves in the worm and nut. b) A steering box using ball bearings to control the steering action.
RECTIFIER	a) A device used to change AC (alternating current) into DC (direct current). b) Same.
RED LINE	a) Top recommended engine rpm. If a tachometer is used, it will have a (red line) indicating maximum rpm. b) When the engine has exceeded a safe turning speed.
REFRIGERANT-12	a) The name applied to refrigerant generally used in automotive air conditioning systems. b) Same.
REGULATOR	a) A device used to limit flow or pressure of a liquid, gas or electricity. b) A device used to control the charging of the battery.
RELAY	a) A magnetically operated switch used to make and break the flow of current in a circuit. Also called "cutout, and circuit breaker." b) A device with a set of contact points that open and close.
RESISTANCE	a) Opposition to flow or pressure of a gas, liquid or electricity. b) Same.

RECIPROCATING ACTION

RECIRCULATE

RECIRCULATING BALL WORM AND NUT

RECTIFIER

RED LINE

REFRIGERANT-12

REGULATOR

RELAY

RESISTANCE

a) PRIMARY
b) SECONDARY

RESISTANT	a) To oppose, stand up against. b) Same.
RESISTOR	a) A device placed in a circuit to lower the voltage. It will also decrease the flow of current. b) A device in a circuit that causes a specific resistance.
RESISTOR SPARK PLUG	a) A spark plug containing a resistor designed to shorten both the capacitive and inductive phases of the spark. This will suppress radio interference and lengthen electrode life. b) A spark plug containing a resistor that stops radio interference or static.
RESONATOR	a) A small muffler-like device that is placed into the exhaust system near the end of the tail pipe. It is used to provide additional silencing of the exhaust. b) A muffling device used behind the muffler.
RETARD (Ignition Timing)	a) To set the ignition timing so that a spark occurs later. b) To have the piston closer to top dead center when the spark plug fires.
REVERSE FLUSH	a) Cleaning the cooling system by pumping a powerful cleaning agent through the system in a direction opposite to that of normal flow to help break off the scale. b) To cause the water to flow backward in the radiator and engine block for the purpose of cleaning.
REVERSE IDLER GEAR	a) A gear used in the transmission to produce a reverse rotation of the transmission output shaft. b) A transmission gear that causes reverse motion of the output shaft.
RICARDO PRINCIPLE	a) An arrangement in which a portion of the combustion chamber came in very close contact with the piston head. The other portion, off to one side, contained more space. As the piston neared TDC on the compression stroke, the fuel mixture was squeezed tightly between the piston and head, thus causing the mixture to squirt outward into the larger area in a very turbulent manner. This produced a superior mixture and allowed compression ratios to be raised without detonation. b) Same.

RESISTANT

RESISTOR

RESISTOR SPARK PLUG

RESONATOR

RETARD
(Ignition Timing)

REVERSE FLUSH

REVERSE IDLER GEAR

RICARDO PRINCIPAL

a) PRIMARY
b) SECONDARY

RING (Chrome)	a) A ring on which the outer edge has a thin layer of chrome plate. b) A chrome plated cast iron ring that surrounds the piston.
RING (Pinned)	a) A steel pin, set into the piston, is placed in the space between the ends of the ring. The ring is thus kept from moving around in the groove. b) Piston ring that is locked in place on the piston.
RING EXPANDER	a) A spring device placed under the rings to hold them snugly against the cylinder wall. b) A spring device placed behind the piston ring to push the ring against the cylinder wall.
RING GEAR	a) May refer to the large gear that is attached to the differential carrier or to the outer gear in a planetary gear setup. b) Largest gear in the rear end housing.
RING GROOVES	a) The grooves cut into the piston to accept the rings. b) The groove cut in the piston that the ring fits into.
RING JOB	a) Reconditioning the cylinders and installing new rings. b) Refers to rebuilding the cylinders and applying the new rings to the pistons.
RING RIDGE	a) That portion of the cylinder above the top limit of ring travel. In a worn cylinder, this area is of a smaller diameter than the remainder of the cylinder and will leave a ledge or ridge that must be removed. b) A portion at the top of the cylinder not worn by the piston rings.
RIVET	a) A metal pin used to hold two objects together. One end o the pin has a head and the other end must be set or peened over. b) A metal fastener that does not use thread or nuts to hold the pieces together.

RING (Chrome)

RING (Pinned)

RING EXPANDER

RING GEAR

RING GROOVES

RING JOB

RING RIDGE

RIVET

a) PRIMARY
b) SECONDARY

ROAD FEEL	a) The feeling imparted to the steering wheel by the wheels of a car in motion. This feeling can be very important in sensing and predetermining vehicle steering response. b) The feel the driver gets of the road through the steering wheel.
ROCKER ARM	a) An arm used to direct the upward motion of the push rod into a downward or opening motion of the valve stem. Used in overhead valve installations. b) A linkage that helps cause the valves to open and close.
ROCKER ARM SHAFT	a) The shaft upon which the rocker arms are mounted. b) A rod that holds the rocker arms in place.
ROCKER PANEL	a) That section of the car body between the front and rear fenders and beneath the doors. b) Body panel directly below the door.
ROCKWELL HARDNESS	a) A measurement of the degree of hardness of a given substance. b) Measurement of how hard the metal is.
RODDING THE RADIATOR	a) The top and sometimes, the bottom tank of the radiator is removed. The core is then cleaned by passing a cleaning rod down through the tubes. This is done when radiators are quite clogged with rust, scale and various mineral deposits. b) The cleaning of the radiator tubes.
ROLLER BEARING	a) A bearing utilizing a series of straight, cupped or tapered rollers engaging an inner and outer ring or race. b) Bearing with an inner and outer shell that rides on tiny cylinders.
ROLLER LIFTERS	a) Valve lifters that have a roller placed on the end contacting the camshaft. This is done to reduce friction between the lobe and lifter. They are generally used when special camshafts and high tension valve springs have been installed. b) Same.

ROAD FEEL

ROCKER ARM

ROCKER ARM SHAFT

ROCKER PANEL

ROCKWELL HARDNESS

RODDING THE RADIATOR

ROLLER BEARING

ROLLER LIFTERS

a) PRIMARY
b) SECONDARY

ROTARY ENGINE		a) A piston engine in which the crankshaft is fixed (stationary) and in which the cylinders rotate around the crankshaft. b) An engine where the cylinders rotate around the crankshaft.
ROTARY ENGINE (WANKEL)		a) An internal combustion engine which is not of a reciprocating (piston) engine design. A central rotor turns in one direction only and yet effectively produces the required intake, compression, firing and exhaust strokes. b) Engine uses a three lobe rotor that rotates in an oval chamber.
ROTATION		a) The revolving or turning of something. b) Same.
ROTOR	(1)	a) Disc used in disc brakes. b) A metal disc that rotates with the wheels to which the brake shoes clamp, when stopping the car.
	(2)	a) Device that turns inside distributor making constant contact with center terminal. As it turns it will conduct secondary voltage to any of the outer terminals. b) Located inside the distributor cap, it distributes voltage to the spark plugs.
ROUGHING STONE (Hone)		a) A coarse stone used for quick removal of material during honing. b) Same.
RUNNING-FIT		a) A fit in which sufficient clearance has been provided to enable the parts to turn freely and to receive lubrication. b) Same.
SAE		a) Society of Automotive Engineers. b) Same.

ROTARY ENGINE

ROTARY ENGINE (WANKEL)

ROTATION

ROTOR (1)

(2)

ROUGHING STONE
(Hone)

RUNNING-FIT

SAE

a) PRIMARY
b) SECONDARY

SAE or RATED HORSEPOWER	a) A simple formula of long standing is used to determine what is commonly referred to as the SAE or Rated Horsepower. The formula is: $\dfrac{\text{Bore Diameter}^2 \times \text{Number of Cylinders}}{2.5}$ This formula is used primarily for licensing purposes and is not too accurate a means of determining actual brake horsepower. b) Same.
SAFETY FACTOR	a) Providing strength beyond that needed, as an extra margin of insurance against part failure. b) A device built stronger than necessary as a built-in safety factor.
SAFETY HUBS	a) A device that is installed on the rear axle to prevent the wheels leaving the car in the event of a broken axle. b) Hub designed so that if the axle breaks the wheel will not come off.
SAFETY RIM	a) A rim having two safety ridges, one on each lip, to prevent the tire beads from entering the drop center area in the event of a blowout. This feature keeps the tire on the rim. b) A rim constructed so that the tire cannot come off when a blowout occurs.
SAFETY VALVE	a) A valve designed to open and relieve the pressure within a container when container pressure exceeds a predetermined level. b) A safety device designed to open when the pressure in the system (object) becomes excessive.
SAND BLAST	a) Cleaning by the use of sand propelled at high speeds in an air blast. b) To remove scale or rust from object bombarding the object with sand under air pressure.
SCATTER SHIELD	a) A steel or nylon guard placed around the bell or clutch housing to protect driver and spectator from flying parts in the event of part failure at high rpm. Such a shield is often placed around transmissions and differential units. b) Protective device which contains particles from an exploding clutch.

SAE or RATED HORSEPOWER

SAFETY FACTOR

SAFETY HUBS

SAFETY RIM

SAFETY VALVE

SAND BLAST

SCATTER SHIELD

a) PRIMARY
b) SECONDARY

SCAVENGING		a) Referring to a cleaning or blowing out action in reference to the exhaust gas.	b) Cleaning the cylinder of exhaust gases.
SCORE		a) A scratch or groove on a finished surface.	b) To damage a surface by scratching.
SCREW EXTRACTOR		a) A device used to remove broken bolts, screws, etc., from holes.	b) A tool made of hard steel designed to remove broken bolts and screws.
SEALED BEAM HEADLIGHT		a) A headlight lamp in which the lens, reflector and filament are fused together to form a single unit.	b) Same.
SEALED BEARING		a) A bearing that has been lubricated at the factory and then sealed, it cannot be lubricated during service.	b) A bearing that needs no maintenance.
SEAT		a) A surface upon which another part rests or seats. Example: Valve seat is matched surface upon which valve face rests.	b) A surface that is matched to another part. Example: Valve seat and valve mated to the seat.
SEAT (Rings)		a) Minor wearing of the piston ring surface during initial use. Rings then fit or seat properly against the cylinder wall.	b) The proper fit of the rings against the cylinder wall.
SECONDARY	(1)	a) Coming second.	b) Same.
	(2)	a) Brake shoe - larger shoe pointing to rear of car.	b) Same.
	(3)	a) Omit high voltage circuit in ignition system.	b) Same.

SCAVENGING

SCORE

SCREW EXTRACTOR

SEALED BEAM HEADLIGHT

SEALED BEARING

SEAT

SEAT (Rings)

SECONDARY (1)

(2)

(3)

a) PRIMARY
b) SECONDARY

SEDIMENT		a) An accumulation of matter which settles to the bottom of a liquid. b) Dirt and contamination in a fluid.
SEIZE		See Freezing
SELF-ENERGIZING		a) A brake shoe (sometimes both shoes) that when applied develops a wedging action that actually assists or boosts the braking force applied by the wheel cylinder. b) A brake shoe that helps apply itself.
SEMI-FLOATING AXLE		a) Type of axle commonly used in modern car. Outer end turns wheel and supports weight of car; inner end which is splined, "floats" in differential gear. b) Axle which is directly connected to the wheel and floats inside the center section of the rear end.
SEPARATORS (Battery)		a) Wood, rubber or plastic sheets inserted between the positive and negative plates to prevent contact. b) Same.
SERIES	(1)	a) A certain order of events. b) A group of events which take place one after another.
(Electrical Circuit)	(2)	a) An electrical circuit with two or more resistance units in which a series and a parallel circuit are combined. b) A circuit which contains one path for electrical current to flow.
SERIES PARALLEL CIRCUIT		a) A circuit of three or more resistance units in which a series and a parallel circuit are combined. b) A series and a parallel circuit combined.
SERVO (Transmission)		a) An oil-operated device used to push or pull another part such as tightening the transmission brake bands. b) Same.

SEDIMENT

SEIZE

SELF-ENERGIZING

SEMI FLOATING AXLE

SEPARATORS (Battery)

SERIES (1)

(Electrical Circuit) (2)

SERIES PARALLEL CIRCUIT

SERVO
(Transmission)

a) PRIMARY
b) SECONDARY

SERVO ACTION	a) Brakes so constructed as to have one end of the primary shoe bearing against the end of the secondary shoe. When the brakes are applied, the primary shoe attempts to move in the direction of the rotating drum and in so doing applies force to the secondary shoe. This action, called servo action, makes less brake pedal pressure necessary and is widely used in brake construction. b) Same.
SHACKLE	a) A device used to attach the ends of a leaf spring to the frame. b) A metal strap that attaches the leaf spring to the car frame.
SHAFT	a) A bar usually round, that supports a gear or pulley, etc. b) Same.
SHIFT	a) Change gears in a transmission. b) Same.
SHIFT FORKS	a) The devices that straddle slots cut in sliding gears. The fork is used to move the gear back and forth on the shaft. b) Levers which move transmission gears back and forth at the proper time.
SHIFT POINT	a) This refers to the point, either in engine rpm or road speed, at which the transmission should be shifted to the next gear. b) The time when the gears in the transmission shift.
SHIFT RAILS	a) Sliding rods upon which the shift forks are attached. Used for shifting the transmission (manual). b) Tubes that support the shifting forks inside the transmission.
SHOCK ABSORBER	a) An oil filled device used to control spring oscillation in the suspension system. b) A device used to cushion car bounce due to rough roads.

SERVO ACTION

SHACKLE

SHAFT

SHIFT

SHIFT FORKS

SHIFT POINT

SHIFT RAILS

SHOCK ABSORBER

a) PRIMARY
b) SECONDARY

SHIMMY	a) The front wheels shaking from side to side. b) Refers to wiggle of the front wheels due to worn front end parts.
SHORT OR SHORT CIRCUIT	a) Refers to some "hot" portion of the electrical system that has become grounded. (Wire touching a ground and providing a completed circuit to the battery.) b) Electrical current returning to the source before it has completed its intended circuit.
SHRINK-FIT	a) A fit between two parts which is so tight, outer or encircling piece must be expanded by heating so it will fit over inner piece. In cooling, outer part shrinks and grasps inner part securely. b) Cooling or heating one part so that it is expanded or contracted before the parts are put together.
SHROUD	a) An enclosure around the fan engine, etc., to guide and help the flow of air for cooling. b) Same.
SHUNT (1)	a) An alternate or bypass portion of an electrical circuit. b) A component connected in parallel to some other part of a circuit.
SHUNT (WINDING) (2)	a) A wire coil forming an alternate or bypass circuit through which current may flow. b) Same.
SIDE-DRAFT CARBURETOR	a) A carburetor in which the air passes through the carburetor into the intake manifold in a horizontal plane. b) A carburetor whose air horn is mounted horizontally.
SILENCER	a) Muffler. b) A sound-deadening device.
SILVER SOLDER	a) Similar to brazing except that a special silver solder metal is used. b) A method of connecting two metals together. This method involves melting silver solder.

SHIMMY

SHORT OR SHORT CIRCUIT

SHRINK-FIT

SHROUD

SHUNT (1)

(Winding) (2)

SIDE-DRAFT CARBURETOR

SILENCER

SILVER SOLDER

a) PRIMARY
b) SECONDARY

SINGLE-BARREL, DOUBLE-BARREL and FOUR-BARREL CARBURETORS	a) This refers to the number of throttle openings or barrels from the carburetor to the intake manifold.	b) Same.
SINTERED BRONZE	a) Tiny particles of bronze pressed tightly together so that they form a solid piece. The piece is highly porous and is often used for filtering purposes.	b) Example: Gasoline filter for carburetors.
SLANT ENGINE	a) This is an in-line engine in which the cylinder block has been tilted from a vertical plane.	b) Same.
SLIDING GEAR	a) A transmission gear that is splined to the shaft. It may be moved back and forth for shifting purposes.	b) Gear that slides back and forth on a shaft.
SLIP ANGLE	a) The difference in the actual path taken by a car making a turn and the path it would have taken if it had followed exactly as the wheels were pointed.	b) Same.
SLIP JOINT	a) A joint that will transfer driving torque from one shaft to another while allowing the shafts to get longer or shorter.	b) A universal joint slides back and forth on a shaft.
SLUDGE	a) Black, mushy deposits throughout the interior of the engine. Caused from a mixture of dust, oil, and water being whipped together by the moving parts.	b) Dirt and contamination mixed with oil.
SMOG	a) Fog made darker and heavier by chemical fumes and smoke.	b) Low hanging clouds of pollution.
SNAP RING	a) A split ring that is snapped into a groove in a shaft or in a groove in a hole. It is used to hold bearings, thrust washers, gears, etc., in place.	b) A ring made of spring steel designed to snap into a groove and hold a part in place.
SNUBBER	a) A device used to limit the travel of some part.	b) Example: Shock absorber.

SINGLE-BARREL,
DOUBLE-BARREL and
FOUR-BARREL CARBURETORS

SINTERED BRONZE

SLANT ENGINE

SLIDING GEAR

SLIP ANGLE

SLIP JOINT

SLUDGE

SMOG

SNAP RING

SNUBBER

a) PRIMARY
b) SECONDARY

SODIUM VALVE	a) A valve in which the stem has been partially filled with metallic sodium to speed up the transfer of heat from the valve head, to the stem and then to the guide and block. b) Exhaust valve which contains liquid sodium inside its stem to provide rapid transfer of heat.
SPARK	a) The bridging or jumping of a gap between two electrodes by a current of electricity. b) An electrical charge that jumps the spark plug gap.
SPARK ADVANCE	a) Causing the spark plug to fire earlier by altering the position of the distributor points in relation to the distributor shaft. b) Supplying spark to the cylinder before the piston reaches top dead center.
SPARK GAP	a) The space between the center and side electrode tips on a spark plug. b) Same.
SPARK PLUG	a) A device containing two electrodes across which electricity jumps to produce a spark to fire the fuel charge. b) A device used to deliver electrical current to the cylinder.
SPECIFIC GRAVITY	a) The relative weight of a given volume of a specific material as compared to the weight of an equal volume of water. b) Same.
SPEEDOMETER	a) Instrument used to determine forward speed of an auto in miles per hour. b) A device that measures speed of a forward moving vehicle.
SPIDER GEARS	a) Small gears mounted on a shaft pinned to the differential case. They mesh with, and drive, the axle end gears. b) Gears located in the rear end which allow one wheel to travel around a corner faster than the other wheel.

SODIUM VALVE

SPARK

SPARK ADVANCE

SPARK GAP

SPARK PLUG

SPECIFIC GRAVITY

SPEEDOMETER

SPIDER GEARS

a) PRIMARY
b) SECONDARY

SPINDLE	a) The machined shaft upon which the inside of the front wheel bearings rest. b) The pivot point on the front axle that causes the wheels to turn and supports a front brake assembly.
SPIRAL BEVEL GEAR	a) A ring and pinion setup widely used in automobile differentials. The teeth of both the ring and the pinion are tapered and are cut on a spiral so that they are at an angle to the center line of the pinion. b) Same.
SPLINE	a) Metal, land, remaining between two grooves used to connect parts. b) A flat part between two (2) grooves and a shaft.
SPLINED JOINT	a) Splines slide in and out allowing the joint to slip. b) The area where two (2) splines are connected allowing them to slide back and forth.
SPONGY PEDAL	a) When there is air in the brake lines, or shoes that are not properly centered in the drums, the brake pedal will have a springy or spongy feeling when the brakes are applied. The pedal normally will feel hard when applied. b) A soft feeling brake pedal usually due to air in the brake system.
SPOOL VALVE	a) A hydraulic control valve shaped somewhat like a spool upon which thread is wound. b) A valve that controls flow of hydraulic fluid.
SPOT WELD	a) Fastening parts together by fusing, at various spots. Heavy surge of electricity is passed through the parts held in firm contact by electrodes. b) A process of melting two metals together by using electrical current at different spots on the metals.
SPRAG CLUTCH	a) A clutch that will allow rotation in one direction but that will lock up and prevent any movement in the other direction. b) A one-way clutch.

SPINDLE

SPIRAL BEVEL GEAR

SPLINE

SPLINED JOINT

SPONGY PEDAL

SPOOL VALVE

SPOT WELD

SPRAG CLUTCH

a) PRIMARY
b) SECONDARY

SPRING (Main Leaf)	a) This refers to the long leaf on which the ends are turned to form an "eye" to receive the shackle. b) A section of spring that connects the car body to the frame.
SPRING STEEL	a) A heat treated steel having the ability to stand a great amount of deflection and yet return to its original shape or position. b) A steel that can be severely bent but will return to its original shape.
SPRING WINDUP	a) The curved shape assumed by the rear left springs during acceleration or braking. b) The bending of the rear springs due to rapid starts or stopping.
SPRUNG WEIGHT	a) This refers to the weight of all the parts of the car that are supported by the suspension system. b) A car weight above the rear springs and front suspension.
SPUR GEAR	a) A gear on which the teeth are cut parallel to the shaft. b) Same.
SPURT OR SQUIRT HOLE	a) A small hole in the connecting rod big end that indexes (aligns) with the oil hole in the crank journal. When the holes index, oil spurts out to lubricate the cylinder walls. b) A hole drilled in the side of the connecting rod. Oil comes out to lubricate the cylinder walls.
SQUARE ENGINE	a) An engine in which the bore diameter and the stroke are of equal dimensions. b) An engine having the same size bore and stroke.
SQ. FT.	a) Square Foot. b) Same.
SQ. IN.	a) Square Inch. b) Same.

SPRING (Main Leaf) ________________________

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SPRING STEEL ________________________

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SPRING WINDUP ________________________

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SPRUNG WEIGHT ________________________

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SPUR GEAR ________________________

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SPURT OR SQUIRT HOLE ________________________

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SQUARE ENGINE ________________________

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SQ. FT. ________________________

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SQ. IN. ________________________

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a) PRIMARY
b) SECONDARY

STABLIZER BAR	a) A transverse mounted spring steel bar that controls and minimizes body lean or tipping on corners. b) A spring steel bar which is used to control side to side movement of the auto.
STAMPING	a) A sheet metal part formed by pressing between metal dies. b) A piece of metal that has been made into a shape by a die under pressure.
STANDARD	a) A specific size or shape decided upon to be the base. Anything other than standard will be oversize or undersize. b) Same.
STARTER	a) An electrical device (motor) used to turn over an engine in order for it to start. b) Same.
STATIC BALANCE	a) When a tire, flywheel, crankshaft, etc., has an absolutely even distribution of the weight mass around the axis of rotation, it will be in static balance. For example, if a front wheel is jacked up and the tire, regardless of where it is placed, always slowly turns and stops with the same spot down, it would not be in static balance. If, however, the wheel remains in any position in which it is placed, it would be in static balance. (Bearings must be free, no brake drag etc.) b) Balance while the part is not moving. The weight is equal at all points on the circumference from the center out.
STATIC ELECTRICITY	a) Electricity generated by friction between two objects. It will remain in one object until discharged. b) Electricity is made by the friction of objects rubbing together. It is discharged when the object is grounded.

STABLIZER BAR

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STAMPING

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STANDARD

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STARTER

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STATIC BALANCE

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STATIC ELECTRICITY

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a) PRIMARY
b) SECONDARY

STATIC PRESSURE (Brakes)	a) A certain amount of pressure that always exists in the brake lines - even with the brake pedal released. Static pressure is maintained by a check valve. b) The constant pressure of the hydraulic fluid in the brake lines.
STATOR	a) A small hub, upon which a series of vanes are affixed in a radial position, that is so placed that oil leaving the torque converter turbine strikes the stator vanes and is redirected into the pump at an angle conducive to high efficiency. The stator makes torque multiplication possible. Torque multiplication is highest at stall when the engine speed is at its highest and the turbine is standing still. b) A device which reverses the flow of the oil in the transmission.
STEERING ARMS	a) Arms, either bolted to, or forged as an integral part of the steering knuckles. They transmit the steering force from tie rods to the knuckles, thus causing the wheels to pivot. b) A part of the spindle which causes the wheels to turn.
STEERING GEAR	a) The gears, mounted on the lower end of the steering column, that are used to multiply driver turning force. b) A box containing gears which link the steering wheel to the steering linkage.
STEERING GEOMETRY	a) A term sometimes used to describe the different angles given to the components making up the front wheel turning arrangement, camber, caster, toe-in, etc. Also used to describe the related angles assumed by the front wheels when the car is negotiating a curve. b) Same.
STEERING KNUCKLE	a) The inner portion of the spindle that is affixed to and pivots on either a kingpin or on upper and lower ball joints. b) A metal bracket that is connected to the upper and lower control arm that supports the spindle.

STATIC PRESSURE
(Brakes)

STATOR

STEERING ARMS

STEERING GEAR

STEERING GEOMETRY

STEERING KNUCKLE

STEERING KNUCKLE ANGLE	a) The angle formed between the steering axis and the center line of the spindle. This angle is sometimes referred to as the Included Angle. b) Same.
STETHOSCOPE	a) A device (such as used by doctors) to detect and locate abnormal engine noises. A very handy tool for the trouble-shooter. b) A listening device used to trace hard-to-find sounds.
STICK SHIFT	a) This refers to a transmission that is shifted manually through the use of various forms of linkage. Often refers to the upright gearshift stick that protrudes through the floor. b) This refers to a standard shift automobile that must be shifted manually.
STROKE	a) The distance the piston moves when traveling from TDC to BDC. b) Refers to the up and down movement of the piston in the cylinder.
STROKED CRANKSHAFT	a) A crankshaft, either a special new one or a stock crank reworked, that has the con rod throws offset so that the length of the stroke is increased. b) A crankshaft modified to increase the up and down movement of the piston in the cylinder.
STUD	a) A metal rod with threads on both ends. b) Same.
STUD PULLER	a) A tool used to install or remove studs. b) Same.
SUMP	a) The part of the oil pan that contains the oil. b) Area of the oil pan that holds the oil.
SUPER CHARGER	a) A unit designed to force air under pressure into the cylinders, usually driven by the engine by a belt. b) An air compressor which forces the air-fuel mixture into the cylinders under pressure.

STEERING KNUCKLE ANGLE

STETHOSCOPE

STICK SHIFT

STROKE

STROKED CRANKSHAFT

STUD

STUD PULLER

SUMP

SUPER CHARGER

a) PRIMARY
b) SECONDARY

SUSPENSION	a) The arrangement of springs, shock absorbers, hangers, etc., connecting the wheel units or axles to the chassis frame. b) The linkages that connect the wheels to the frame of the automobile.
SWEATING	a) Joining two pieces of metal together by placing solder between them and then clamping them tightly together while heat, sufficient to melt the solder, is applied. b) To join to metals together with the use of hot solder.
SYNCHROMESH (Transmission)	a) A transmission using a device (synchromesh) that synchronizes the speeds of gears that are being shifted together. This prevents "gear grinding." Some transmissions use a synchromesh on all shifts, while others synchronize second and high gearshifts. b) Standard shift transmission which can be shifted from a higher to a lower gear while the vehicle is in motion.
SYNCHRONIZE	a) To bring about a timing that will cause two or more events to occur simultaneously; plug firing when the piston is in the correct position, the speed of two shafts being the same, a valve opening when the piston is in the correct position, etc. b) To have two gears turn at the same speed so that they are able to mesh together.
TAIL PIPE	a) Exhaust piping running from the muffler to the rear of the car. b) The pipe connected to the rear of the muffler where the exhaust gases exit.
TAP AND DIE SET	a) A set of taps and dies for internal and external threading - usually covers a range of the most popular sizes. b) Tools designed to repair damaged or worn threads.
TAPERED ROLLER BEARING (Antifriction)	a) A bearing utilizing a series of tapered, hardened steel rollers operating between an outer and inner hardened steel race. b) Same.

SUSPENSION

SWEATING

SYNCHROMESH
(Transmission)

SYNCHRONIZE

TAIL PIPE

TAP AND DIE SET

TAPERED ROLLER BEARING
(Antifriction)

TAPPET NOISE	a) Noise caused by the lash or clearance between the valve stem and rocker arm or between the valve stem and valve lifter. b) Same.
TEFLON	a) A plastic with excellent self-lubricating (slippery) bearing properties. b) Same.
THERMAL	a) Having to do with heat. b) Same.
THERMAL EFFICIENCY	a) The percent of heat developed in the burning fuel charge that is actually used to develop power. b) The amount of heat produced in the cylinder that is actually put to work.
THERMOSTAT	a) A device including a relay that is temperature sensitive. It is used in the cooling system to control the flow of coolant in relation to the temperature. b) A temperature-sensitive device that regulates the water temperature in the engine.
THROTTLE	a) Accelerator pedal. b) A device that regulates the amount of gasoline entering the engine.
THROTTLE VALVE	a) A butterfly in the carburetor. It is used to control the amount of air-fuel mixture that reaches the cylinders. b) A plate located in the carburetor which controls the amount of fuel and air entering the engine.
THRUST BEARING	a) A bearing designed so as to resist side pressure. b) A bearing which controls forward and backward motion of a shaft.
THRUST WASHER	a) A bronze or a hardened steel washer placed between two moving parts. The washer prevents lengthwise movement and provides a bearing surface for the thrust surfaces of the parts. b) A washer that controls forward and backward motion of parts. This also provides a wear surface.

TAPPET NOISE

TEFLON

THERMAL

THERMAL EFFICIENCY

THERMOSTAT

THROTTLE

THROTTLE VALVE

THRUST BEARING

THRUST WASHER

a) PRIMARY
b) SECONDARY

TIMING MARKS (Ignition)	a) Marks, usually located on the vibration damper, used to synchronize the ignition system so that the plugs will fire at the precise time. b) Same.
TIMING MARKS (Valves)	a) One tooth on either the camshaft or crankshaft gear will be marked with an indentation or some other mark. Another mark will be found on the other gear between two of the teeth. The two gears must be meshed so that the marked tooth meshes with the marked spot on the other gear. b) Lining up of two marks, one on the timing gear and one on the crankshaft gear.
TINNING	a) Coating a piece of metal with a very thin layer of solder. b) Coating two pieces of metal before joining them together with solder.
TIRE BALANCE	a) In that tires turn at relatively high speeds, they must be carefully balanced both for static balance and for dynamic balance. b) To assure the tire has its weight distributed equally around its circumference.
TIRE BEAD	a) That portion of the tire that bears against the rim flange. The bead has a number of turns of steel wire in it to provide great strength. b) Section of the tire that seals against the rim.
TIRE CASING	a) The main body of the tire exclusive of the tread. b) Section of the tire that supports the tread.
TIRE PLIES	a) The layers of nylon, rayon, etc., cloth that are used to form the casing. Most car tires are two-ply with a four-ply rating. Two-ply indicates two layers of cloth or plies. b) Manufacturers rating of the thickness of the tire casing.
TIRE ROTATION	a) Moving the front tires to the rear and the rear to the front to equalize any wear irregularities. b) Changing the tires to different points on the automobile to lengthen the tire life.

TIMING MARKS
(Ignition)

TIMING MARKS
(Valves)

TINNING

TIRE BALANCE

TIRE BEAD

TIRE CASING

TIRE PLIES

TIRE ROTATION

a) PRIMARY
b) SECONDARY

TIRE SIDEWALL	a) That portion of the tire between the tread and the bead. b) The vertical part of the tire casing where the whitewall is usually located.
TOGGLE SWITCH	a) A switch that is actuated by flipping a small lever either up and down or from side to side. b) Electrical switch operated by a lever.
TOOTH HEEL (Differential Ring Gear)	a) The wider outside end of the tooth. b) Same.
TOOTH TOE (Differential Ring Gear)	a) The narrower inside end of the tooth. b) The narrow leading edge of the tooth.
TORQUE MULTIPLICATION (Automatic Transmission)	a) Increasing engine torque through the use of a torque converter. b) Increasing the turning power of the automatic transmission by using a torque converter.
TORQUE TUBE DRIVE	a) The method of connecting the tranmission output shaft to the differential pinion shaft by using an enclosed drive shaft. The drive shaft is enclosed in a torque tube that is bolted to the rear axle housing on one end and is pivoted through a ball joint to the rear of the transmission on the other. The driving force of the rear wheels is transferred to the frame through the torque tube. b) Two tubes one inside the other with the inside shaft driving the rear wheels and the outside shaft resisting the twisting forces of the rear axle.
TORSIONAL VIBRATION	a) A twisting and untwisting action developed in a shaft. It is caused either by intermittent applications of power or load. b) Same.
TORSION BAR SUSPENSION	a) A suspension system that makes use of torsion bars in place of the leaf or coil spring. b) Suspension that does not depend upon springs but rather steel bars.

TIRE SIDEWALL

TOGGLE SWITCH

TOOTH HEEL
(Differential
Ring Gear)

TOOTH TOE
(Differential Ring Gear)

TORQUE MULTIPLICATION
(Automatic Transmission)

TORQUE TUBE DRIVE

TORSIONAL VIBRATION

TORSION BAR SUSPENSION

a) PRIMARY
b) SECONDARY

TORUS	a) Used in a torque convertor, usually an oil-filled member. b) Same.
TRACK	a) The distance between the front wheels or the distance between the rear wheels. They are not always the same. b) A measurement of the width between the left front wheel and the right front wheel or that of the rear wheels.
TRACTION BAR	a) Articulated bar or link attached to both frame and rear axle housing to prevent spring windup (with resultant wheel hop) during heavy acceleration or braking. b) A bar or tubing that resists turning forces of the rear end housing.
TRACTION DIFFERENTIAL	See Limited-Slip Differential.
TRANSISTOR IGNITION	a) A relatively new form of ignition, this system uses transistors and a special coil. The conventional distributor and point setup is used. With the transistor unit, the voltage remains constant, thus permitting high engine rpm without resultant engine "miss." Point life is greatly extended as the transistor system passes a very small amount of current through the points. b) An ignition system that uses transistors to improve spark and point life.
TRANSMISSION	a) A device that uses gearing or torque conversion to effect a change in the ratio between engine rpm and driving wheel rpm. When engine rpm goes up in relation to wheel rpm, more torque but less speed is produced. A reduction in engine rpm in relation to wheel rpm produces a highest road speed but delivers less torque to the driving wheels. b) A device used to multiply torque and also allows the car to travel forward and backward.

TORUS

TRACK

TRACTION BAR

TRACTION DIFFERENTIAL

TRANSISTOR IGNITION

TRANSMISSION

a) PRIMARY
b) SECONDARY

TRANSMISSION (Automatic)		a)	A transmission that automatically effects gear changes to meet varying road and load conditions. Gear changing is done through a series of oil operated clutches and bands.
		b)	A device which needs no manual selection of gears as speed changes.
TRANSMISSION (Standard or Conventional)		a)	A transmission that must be shifted manually to effect a change in gearing.
		b)	A stick shift, or a transmission that must be shifted manually.
TREAD	(1)	a)	The distance between the two front or two rear tires.
		b)	Same.
	(2)	a)	The portion of the tire that contacts the road.
		b)	Same.
TRIP ODOMETER		a)	An extra odometer that may be reset to zero at the option of the driver. It is used for keeping track of the mileage on trips up to one thousand miles.
		b)	A section of the speed odometer that allows the driver to record trip mileage. This can be manually returned to zero before each trip.
TROUBLESHOOTING		a)	Diagnosing engine, transmission, etc., problems by various tests and observations.
		b)	Attempting to find an unknown cause of a problem.
TUBE CUTTER		a)	A tool used to cut tubing by passing a sharp wheel around and around the tube.
		b)	Same.
TUNE-UP		a)	The process of checking, repairing and adjusting the carburetor, spark plugs, points, belts, timing, etc., in order to obtain the maximum performance from the engine.
		b)	Restoring the automobile engine so that it runs according to manufacturer's specifications. This generally includes replacing points, condensor, and plugs.

TRANSMISSION
(Automatic)

TRANSMISSION
(Standard or
Conventional)

TREAD (1)

(2)

TRIP ODOMETER

TROUBLESHOOTING

TUBE CUTTER

TUNE-UP

a) PRIMARY
b) SECONDARY

TURBINE ENGINE		a) An engine that utilizes burning gases to spin a turbine, or series of turbines, as a means of propelling the car. b) Same.
TWIST DRILL		a) A metal cutting drill with spiral glutes (grooves) to permit the exit of chips while cutting. b) The proper name of the common metal drill.
UNDER-SQUARE ENGINE		a) An engine in which the bore diameter is smaller than the length of the stroke. b) Same.
UNDERSTEER		a) The tendency of a car, when negotiating a corner, to turn less sharply than the driver intends. b) The tendency of the front wheels not to turn as far as the driver expected when making a turn.
UNIT BODY		a) A car body in which the body itself acts as the frame. b) A type of car body construction that does not rely on a frame for structural strength. The body is spot welded together for strength.
UNITS	(1)	a) Usually a specified amount used during a measurement. b) Same.
	(2)	a) A section of the whole thing. b) Same.
UPSHIFT		a) Shifting to a higher gear. b) Process of the transmission shifting from a lower gear to a higher gear.
VACUUM ADVANCE (Distributor)		a) A unit designed to advance and retard the ignition timing through the action of engine vacuum working on a diaphragm. b) A mechanism located inside the distributor that operates by manifold vacuum to advance the spark being delivered to the cylinder.

TURBINE ENGINE

TWIST DRILL

UNDER-SQUARE ENGINE

UNDERSTEER

UNIT BODY

UNITS (1)

(2)

UPSHIFT

VACUUM ADVANCE
(Distributor)

a) PRIMARY
b) SECONDARY

VACUUM BOOSTER	a)	A small diaphragm vacuum pump, generally in combination with the fuel pump, that is used to increase engine vacuum during acceleration so that the vacuum operated devices will continue to operate.
	b)	Same.
VACUUM PUMP	a)	A diaphragm type of pump used to produce a vacuum.
	b)	Same.
VACUUM RUNOUT POINT	a)	This refers to the point reached when a vacuum brake power piston has built up all the braking force it is capable of with the vacuum available.
	b)	Same.
VACUUM TANK	a)	A tank in which a vacuum exists. It is generally used to provide vacuum to a power brake installation in the event engine vacuum cannot be obtained. The tank will supply several brake applications before the vacuum is exhausted.
	b)	This is a safety tank where vacuum is available when the engine is unable to supply enough vacuum.
VALVE	a)	A device used to either open or close an opening. There are many different types.
	b)	Same.
VALVE DURATION	a)	The length of time, measured in degrees of engine crankshaft rotation, that a valve remains open.
	b)	The amount of time the valve is either open or closed.
VALVE FLOAT	a)	A condition where the valves in the engine are forced back open before they have had a chance to seat. Brought about (usually) by extremely high rpm.
	b)	Due to high rpm, the valves cannot open and close properly.
VALVE GUIDE	a)	The hole through which the stem of the poppet valve passes. It is designed to keep the valve in proper alignment. Some guides are pressed into place and others are merely drilled in the block or in the heat metal.
	b)	An opening that surrounds the valve stem and keeps the valve properly aligned.

VACUUM BOOSTER

VACUUM PUMP

VACUUM RUNOUT POINT

VACUUM TANK

VALVE

VALVE DURATION

VALVE FLOAT

VALVE GUIDE

a) PRIMARY
b) SECONDARY

VALVE KEEPER, VALVE KEY, VALVE RETAINER	a) A small unit that snaps into a groove in the end of the valve stem. It is designed to secure the valve spring, valve spring retaining washer and valve stem together. Some are of a split design, some of a horseshoe shape, etc. b) A locking device that holds the valve spring under tension to the valve.
VALVE LASH	a) Valve tappet clearance or total clearance in the valve operating train with cam follower on camshaft base circle. b) The clearance between the valve stem and the rocker arm.
VALVE LIFT	a) Distance a valve moves from the full closed to the full open position. b) The distance the valve lifts from its seat when it is fully open.
VALVE OIL SEAL	a) A neoprene rubber ring that is placed in a groove in the valve stem to prevent excess oil entering the area between the stem and the guide. b) Same.
VALVE PORT	a) The opening, through the head or block, from the intake or exhaust manifold to the valve seat. b) The opening through which the fuel mixture travels just before it reaches the intake valve or just after the exhaust leaves the exhaust valves.
VALVE ROTATOR	a) A unit that is placed on the end of the valve stem so that when the valve is opened and closed, the valve will rotate a small amount with each opening and closing. This gives longer valve life. b) Same.
VALVE SEAT GRINDING	a) Renewing the valve seat area by grinding with a stone mounted upon a special mandrel. b) Reconditioning the valve seat by grinding it with a special stone.

VALVE KEEPER,
VALVE KEY,
VALVE RETAINER

VALVE LASH

VALVE LIFT

VALVE OIL SEAL

VALVE PORT

VALVE ROTATOR

VALVE SEAT GRINDING

a) PRIMARY
b) SECONDARY

VALVE SEAT INSERT	a) A hardened steel valve seat that may be removed and replaced. b) A replaceable valve seat.
VALVE TAPPET	a) An adjusting screw to obtain the specified clearance at the end of the valve stem (tappet clearance). The screw may be in the top of the lifter, in the rocker arm, the nut on the mounting stud acts in place of a tappet screw. b) Part of the valve train mechanism that rides against the lobe of the camshaft.
VALVE TIMING	a) Adjusting the position of the camshaft to the crankshaft so that the valves will open and close at the proper time. b) Making the camshaft and the crankshaft work together so that the valves open and close at the proper time.
VALVE TRAIN	a) The various parts making up the valve and its operating mechanism. b) All the valve linkages that cause the valve to open and close.
VALVE UMBRELLA	a) A washer-like unit that is placed over the end of the valve stem to prevent the entry of excess oil between the stem and the guide. Used in valve-in-head installations. b) A steel device that stops oil from entering the valve port when the valve is open.
VANE	a) A thin plate attached to a rotatable unit. b) Same.
VANE PUMP	a) A thin plate attached to a rotatable unit that is turned to throw off air or liquid. b) Same.
VAPOR SEPARATOR	a) A device used on cars equipped with air conditioning to prevent vapor lock by feeding vapors back to the gas tank via a separate line. b) A device connected to the carburetor that removes vaporized gasoline and returns it to the tank.

VALVE SEAT INSERT

VALVE TAPPET

VALVE TIMING

VALVE TRAIN

VALVE UMBRELLA

VANE

VANE PUMP

VAPOR SEPARATOR

a) PRIMARY
b) SECONDARY

VARIABLE PITCH STATOR		a) A stator that has vanes that may be adjusted to various angles depending on load conditions. The vane adjustment will increase or decrease the efficiency of the stator. b) A disc with moveable vanes (blades) attached.
VARNISH		a) A deposit on the interior of the engine caused by the engine oil breaking down under prolonged heat and use. Certain portions of the oil deposit themselves in hard coatings of varnish. b) A hard deposit on engine parts caused by overheated oil.
VIBRATION DAMPER		a) A round weighted device attached to the front of the crankshaft to minimize the torsional vibration. b) A device attached to the front of the crankshaft that eliminates vibration.
VISCOSITY		a) A measure of an oils ability to pour (thick, thin). b) The resistance of a fluid to flow.
VISCOSITY INDEX		a) A measure of an oils ability to resist changes in viscosity when heated. b) Same.
VOLATILE		a) Easily evaporated. b) The ability of a liquid to change rapidly to a gas.
VOLATILITY		a) The property of gasoline, alcohol, etc., to evaporate quickly and at relatively low temperatures. b) Same.
VOLTAGE	(1)	a) A difference in electrical pressure between one point in a circuit and another. b) The drop in electrical pressure due to traveling long distances in a circuit.
	(2)	a) The pressure in an electrical circuit. b) Same.

VARIABLE PITCH STATOR

VARNISH

VIBRATION DAMPER

VISCOSITY

VISCOSITY INDEX

VOLATILE

VOLATILITY

VOLTAGE (1)

(2)

a) PRIMARY
b) SECONDARY

VOLTAGE DROP	a) The lowering of voltage due to excess length of wire, undersize wire, etc. b) Same.
VOLUMETRIC EFFICIENCY	a) A comparison between the actual volume of air fuel mixture drawn in on the intake stroke and what could be drawn in if the cylinder were to be completely filled. b) The amount of air fuel mixture entering the cylinder as compared to what the cylinder could actually hold.
WANKEL ENGINE	a) A rotary combustion engine that utilizes one or more three-sided rotors mounted on drive shaft operating in specially shaped chambers. The rotor turns constantly in one direction yet produces an intake compression, firing and exhaust stroke. b) An engine that uses a rotor to produce power instead of pistons.
WATER JACKET	a) The area around the cylinders and valves that is left hollow so that water may be admitted for cooling. b) An area in the engine block where water flows cooling the cylinders.
WELD	a) To join two pieces of metal together by raising the area to be joined to a point hot enough for the two sections to melt and flow together. Additional metal is usually added by melting small drops from the end of a metal rod while the welding is in progress. b) To fuse two metals together with the use of heat.
WET SLEEVE	a) A cylinder sleeve application in which the water in the cooling system contacts a major portion of the sleeve itself. b) A replaceable cylinder that comes in contact with the water in the cooling system.
WHEEL ALIGNER	a) A device used to check camber, caster, toe-in, etc. b) A tool used to properly line up wheels.
WHEEL BALANCER	a) A machine used to check the wheel and tire assembly for static and dynamic balance. b) A machine that balances the tire and rim.

VOLTAGE DROP

VOLUMETRIC EFFICIENCY

WANKEL ENGINE

WATER JACKET

WELD

WET SLEEVE

WHEEL ALIGNER

WHEEL BALANCER

a) PRIMARY
b) SECONDARY

WHEELBASE	a) The distance between the center of the front wheels and the center of the rear wheels. b) The distance between the center of the hub of the front wheels and the center of the hub of the rear wheels.
WHEEL HOP	a) A hopping action of the rear wheels during heavy acceleration. b) A tire leaving the road surface due to heavy acceleration or breaking.
WHEEL LUG or LUG BOLT	a) The bolts used to fasten the wheel to the hub. b) A bolt with which the wheel is held to the hub.
WINDING	a) The wires that are wound around the armature and are connected to the commutator. b) Same.
WIRING DIAGRAM	a) A drawing showing the various electrical units and the wiring arrangement necessary for them to function properly. b) A drawing of the wiring system.
WORM AND ROLLER	a) A type of steering gear utilizing a worm gear on the steering shaft. A roller on one end of the cross shaft engages the worm. b) Same.
WORM AND SECTOR	a) A type of steering gear utilizing a worm gear engaging a sector (a portion of the gear) on the cross shaft. b) Same.
WORM AND TAPER PIN	a) A type of steering gear utilizing a worm gear on the steering shaft. The end of the cross shaft engages the worm via a taper pin. b) Same.
WRISTPIN	a) Pin connecting piston and connecting rod allowing connecting rod to rock back and forth. b) A hard metal cylinder that connects the piston to the connecting rod.
ZERO	a) The place that no run-out occurs, the locating point. b) A point from which all positive and negative readings are to be measured.

WHEELBASE

WHEEL HOP

WHEEL LUG
or LUG BOLT

WINDING

WIRING DIAGRAM

WORM AND ROLLER

WORM AND SECTOR

WORM AND TAPER PIN

WRISTPIN

ZERO

Abrasion____

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Acetylene____

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Air-Lock____

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Air Spring____

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Alignment____

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Allen Wrench____

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Aluminum____

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Anchor____

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Automatic Steering Effect_____________________________

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Backfire____

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Back-Pressure____

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Baffle or Baffle Plate________________________________

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Ball Bearing________________________________

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Barb________________________________

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Battery________________________________

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B.D.C.________________________________

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Bell Housing________________________________

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Bender________________________________

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Bendix (Bendix-type starter drive)________________________________

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Bezel________________________________

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BHP________________________________

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Boiling Point________________________________

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Bond____

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Bonded Lining_____________________________________

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Booster____

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Bore____

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Boring Bar____

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Boss____

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Bounce____

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Brake Anchor______________________________________

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Brake Band____

____

Brake Bleeding____________________________________

____

Brake Cylinder____________________________________

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Brake Disc

Brake Drum

Brake "Fade"

Brake Fluid

Brake Flushing

Brake Lining

Brake Shoe Heel

Brake Shoe Toe

Brazed

Breaker Arm

Breaker Points

Break-In____

____

Brushes____

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BTU (British Thermal Unit)____________________________

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Buna____

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Burrs____

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Butane____

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Bypass____

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Cable____

____

Cam or
Breaker Cam______________________________________

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Camshaft_______________________________________

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Chemical Compound________________________________

Chromium Steel________________________________

Clutch________________________________

Compressor________________________________

Condenser(Ignition)________________________________

Condenser (Refrigeration)________________________________

Connections________________________________

Connectors________________________________

Crankshaft Counterbalance________________________________

Cycle________________________________

Cylinder Block________________________________

Dashpot____

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DC____

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Dead Center____________________________________

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Dead Rear Axle__________________________________

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Degree____

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Dehydrator_____________________________________

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Demagnetize____________________________________

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Demountable Rim_________________________________

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Density_______________________________________

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Depolarize_____________________________________

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Detergent______________________________________

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Detonation____

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Diagnosis____

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Dial Gauge____

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Die____

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Die Casting_______________________________________

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Diesel Engine_____________________________________

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Diode____

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Dipstick____

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Direct Drive______________________________________

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Discharge____

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Distortion____

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Down-Draft____

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Downshift____

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Drag Link____

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Drill____

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Drive Line____

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Electrical____

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Engine____

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Exhaust Emissions_________________________________

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Expansion____

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Fahrenheit(F)_____________________________________

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Fasteners____

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Feeler Gauge ______________________________

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Ferrous Metal ______________________________

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Field ______________________________

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Field Coil ______________________________

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File ______________________________

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Fillet ______________________________

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Filter ______________________________

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Fire Wall ______________________________

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Flange ______________________________

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Flare ______________________________

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Flash Point ______________________________

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Float____

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Floating Piston Pin__________________________

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Float Level__________________________________

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Fluid Coupling_______________________________

____

Fluid Drive__________________________________

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Flywheel_____________________________________

____

Foot Pound(or lbs. ft.)______________________

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Forge____

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Four Cycle Engine____________________________

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Free-Wheeling________________________________

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Freeze Plug__________________________________

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Friction____

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Friction Drive______________________________________

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Fulcrum____

____

Full-Floating Axle__________________________________

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Fuse____

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Galvanize____

____

Gasket____

____

Gauge____

____

Gearbox____

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Governor____

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Graduated____

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Gram

Groove

Group

Hard Pedal

Hard Solder

Heat Sink

Heat Treatment

Hinges

Hotchkiss
(Hotchkiss Drive)

Hot Spot

HP (Horsepower)

Hydrocarbon Engine____________________

I. D.____________________

Ignite____________________

Ignition____________________

Ignition Distributor____________________

Ignition System____________________

In.____________________

Included Angle____________________

Independent Suspension____________________

Induction____________________

Induction Coil____________________

Inertia____

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Inhibitor____

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Injector____

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Intake Valve____

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Insulation____

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Insulator____

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Intake Manifold____

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Intensify____

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Intermediate Gear____

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Intermittent____

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Internal Combustion____

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Jack____________________

Joint____________________

Journal____________________

Keyway or
Keyseat____________________

Kick-Down Switch____________________

Kilowatt____________________

Kingpin____________________

Kingpin Inclination____________________

Knurl____________________

Knock____________________

Lathe____________________

L. C.____

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Liner____

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Liquid____

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Lock Washer____

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Lost Motion____

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Low Speed____

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Lubricant____

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Manometer____

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Mechanic____

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Melting Point______________________________________

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Micrometer____

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Misalignment______________________________________

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Nickel Steel______________________________________

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Octane Number_____________________________________

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O. D.____

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Odometer____

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Ohm____

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Open Circuit______________________________________

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Oscillate____

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Oscilloscope______________________________________

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Otto Cycle____

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Overdrive____

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Overhead Valve or
Valve-in-Head Engine__________________________________

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Overrunning:
(Overrunning Clutch)__________________________________

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Oxidize____

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PCV____

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Parking Brake______________________________________

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Pawl____

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Peen____

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Petcock____

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Petroleum_______________________________________

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Phillips Screw or Screwdriver______________________________

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Pinion______________________________

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Pinion Carrier______________________________

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Piston______________________________

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Piston Collapse______________________________

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Piston Displacement______________________________

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Piston Head______________________________

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Piston Lands ______________________________

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Piston Pin______________________________

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Piston Ring______________________________

____

Piston Ring Expander______________________________

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Piston Ring Gap______________________________

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Piston Ring Groove______________________________

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Piston Skirt______________________________

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Piston Skirt Expander______________________________

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Pitman Arm______________________________

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Plannet Carrier______________________________

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Pneumatic______________________________

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Poppet Valve______________________________

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Porcelain______________________________

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Port______________________________

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"Porting"______________________________

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Positive Pole____________________

Post____________________

Power Steering____________________

Pre-Ignition____________________

Pre-Loading____________________

Press____________________

Procedure____________________

Propeller (Propeller Shaft)____________________

Puller____________________

Push Rod____________________

Putleg____________________

Quadrant

"Race-Cam"

Radiator

Radius Rods

Ream

Reboring

Refrigerant

Refrigeration

Reinforced

Reverse

Rotary Valve

RPM ____

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Rubber ____

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Runout ____

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SAE Thread _______________________________________

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Scale ____

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Schematic ____

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Scuffing ____

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Sealant ____

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Sender ____

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Shim ____

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Socket (Electrical) ______________________________

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Socket (Tool)____

Solder____

Soldered____

Solenoid____

Solvent____

South Pole____

Spacer(Spacer Washer)____

Specifications____

Standard Thread____

Steel Casting____

Strap____

Stress____

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"Stroking"____________________________________

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Suction_______________________________________

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Sulphated_____________________________________

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Tachometer____________________________________

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Tap____

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Tapered_______________________________________

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T.D.C.____

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Techniques____________________________________

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Tees____

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Temper ____

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Tension ____

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Terminal ____

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T-Head Engine ____

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Throw ____

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Tie Rod ____

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Timing Chain ____

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Timing Gears ____

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Toe ____

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Toe-Out on Turns ____

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Tolerances ____

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Torch________________________________

Torque________________________________

Torque Converter________________________________

Torque Wrench________________________________

Torsion Bar________________________________

"Tramp"________________________________

Transaxle________________________________

Transformer________________________________

Transistor________________________________

Trunnion________________________________

Turbine____

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Turbocharger____

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Turbulence____

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Turning Radius_______________________________________

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Two-Cycle Engine_____________________________________

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Unions____

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Universal (Universal Joint)__________________________

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Unsprung Weight______________________________________

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Up-Draft____

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Vacuum____

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Vacuum Control____

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Vacuum Gauge____

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Valve Clearance_______________________________________

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Valve Face____

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Valve Grinding____

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Valve Head____

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Valve Key or Valve Lock__________________________________

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Valve Lifter____

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Valve Margin____

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Valve Overlap____

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Valve Seat____

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Valve Spring____

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Valve Stem____

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Valve Stem Guide____________________________________

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Vaporizer____

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Vapor Lock____

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Vapor Pressure_____________________________________

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Velocity____

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Venturi____

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Vibration____

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Viscosimeter____

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Volt____

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Voltage Regulator_______________________________

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Voltmeter_______________________________________

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Volume____

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Vortex____

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"Wandering" ____________________________________

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Watt____

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Wedge Block_____________________________________

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Welding____

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Wheel Cylinders_________________________________

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Windshield______________________________________

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Wiper____

____

Worm Gear____________________________________

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Wrench_______________________________________

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Yoke____

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